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United States
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Tongass
National
Forest
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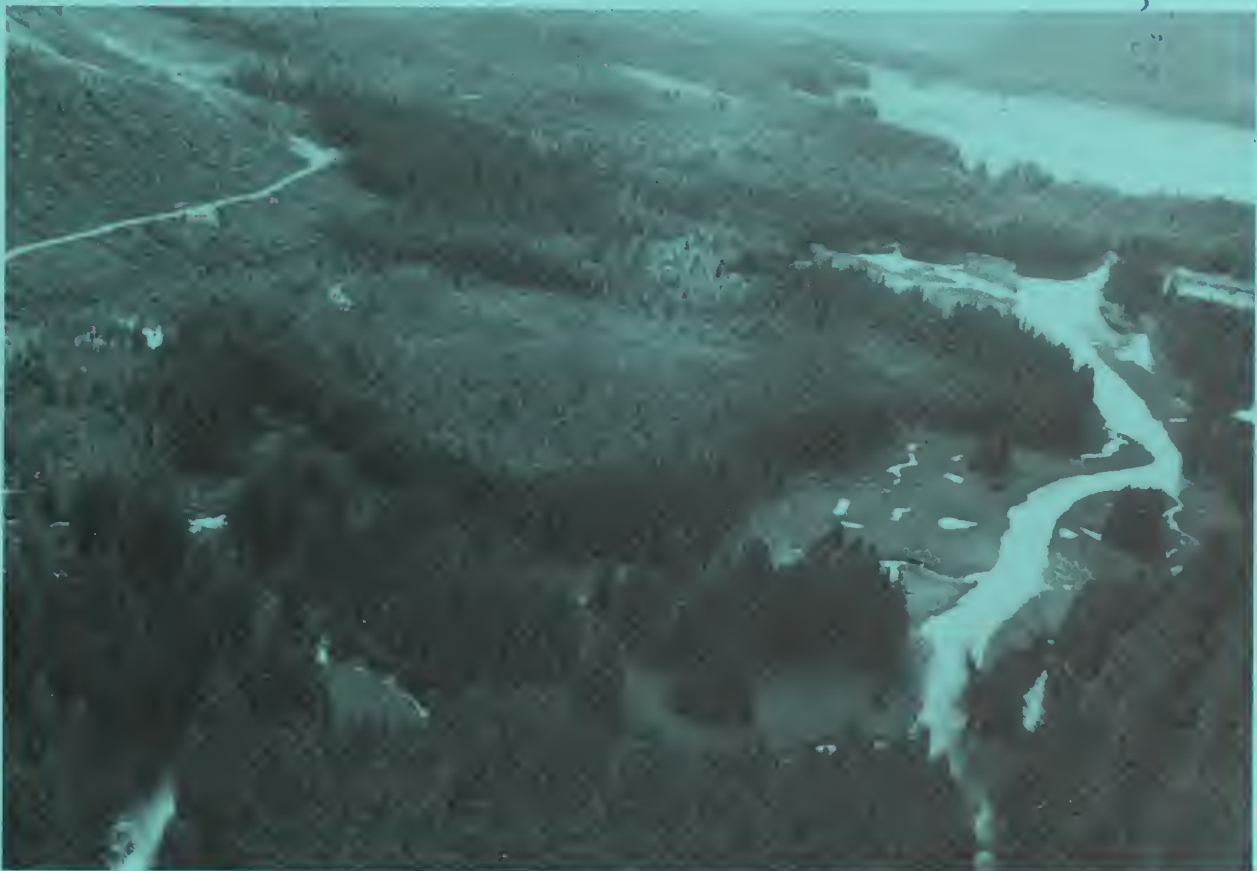
January 1993



Alaska Pulp Corporation Long-Term Timber Sale Contract

North and East Kuiu Final Environmental Impact Statement

Volume II: Appendix A
Unit Plans and Road Descriptions



Appendix A

Unit Plans and Road Descriptions

Appendix A

Unit Plan Summaries

Introduction

Unit plan summaries are intended to serve a dual purpose: (1) to disclose the site specific elements of the design unique to the unit in the NEPA process, and (2) to provide sufficient documentation so that timber sale layout teams can easily understand the unit's objectives as planned by the interdisciplinary team.

Planning Process

Unit planning is accomplished with an interdisciplinary process. The process is interactive in nature in that a preliminary plan is developed which is subjected to the scrutiny of both Forest Service and other governmental agencies as well as interested individuals from the general public. Information gathered through this public involvement process is used to modify the original proposal to better address the collective concerns and objectives. Summaries of the results of the unit planning process are documented on the unit plan cards displayed below.

Unit plan summaries are intended to capture the site specific elements of unit design unique to the individual unit. A timber harvest unit proposal results from an interdisciplinary planning process that must consider the resource objectives of all individuals concerned. The working documentation for a single harvest unit proposal can include a considerable quantity of working maps, resource surveys, logging skyline analysis, landscape management computer designs, and other related information. The unit plans presented here are a summarization of this larger body of supporting documentation. As such, it should be realized that each unit plan summary does not and cannot display all available supporting information. To fully see the total picture within which a unit design evolved, one must look at all of the supporting documentation.

Elements of design that are common to all units have been grouped under separate headings and listed below before the unit plan summaries.

Unit Plan Summary Format

Unit plan summaries are presented in three sections:

The Heading

The heading includes unit number and pertinent geographical information

Resource Concerns/Opportunities - Unit Management Objectives

This section provides site specific information unique to the unit and the objectives identified to address the resource concerns and opportunities that focused the design process. The absence of a resource indicates that the resource was not a concern in the unit.

Implementation Activities

This section provides a summary of site specific resource information unique to the area associated with the unit that was important and necessary for the design.

Transportation System

This section describes the planned access to the unit, in particular, whether the roads required will be specified forest development roads or temporary spurs.

Unit Design

This section describes the site specific features of the unit design that were developed by the IDT to address the identified concerns. Some elements of design that are not unique but must be considered for all units are not included in the summaries. They are grouped into the following categories and described below:

- Laws and Regulations
- Timber Sale Contract Provisions
- Ecosystem Management
- Logging Engineering Requirements
- Road Engineering Requirements

Elements Common to All Units

Laws and Regulations

All laws and regulations pertinent to the management of the National Forest System are considered in the design of harvest units. While not listed on each in the summaries for each unit plan they provide the framework for the interdisciplinary process and the overall guidance for developing the plans.

Timber Sale Contract Provisions

Timber Sale Contract provisions that are pertinent to the implementation of the harvest proposal are specifically listed in the Unit Plan summaries. Three important contract provisions that are frequently referenced deal with riparian stream habitat protection requirements of the Tongass Timber Reform Act of 1990 and are copied below:

B6.5a:

Class I streams and Class II streams that flow directly into a Class I stream are marked with blue and white striped flagging and will be protected in the following manner:

As provided for in section 103 of the Tongass Timber Reform Act, timber harvest units shall not be within a buffer zone of no less than 100 feet on each side of Class I streams and Class II streams which flow directly into a Class I stream.

Prior to any operations allowed by Section 103 of the Tongass Timber Reform Act within a buffer zone, a Streamcourse Protection Plan will be developed for that buffer zone. This plan will incorporate provisions for implementing Section 103 of the Tongass Timber Reform Act and will specify which timber, if any, may be removed within the buffer zone and become Included Timber.

Except as provided in C6.42 or Streamcourse Protection Plan developed herein there will be no yarding corridors, tailholds, temporary road crossings or logging activity within the buffer designated on either side of Streamcourse.

B6.5b:

Class II streams which do not flow directly into a Class I stream, and Class III streams having characteristics of instability and sediment production are marked with orange and white striped flagging and will be protected in the following manner unless agreed otherwise in writing:

Trees shall be felled in such a manner so that the direction of fall is away from streamcourses. These trees may be wedged, jacked, lined, or otherwise pulled when necessary to meet this requirement. Unless the Forest Service provides a written waiver, felled trees that inadvertently enter or cross streamcourses shall not be bucked or limbed until clear of streamcourses, unless limbing or bucking would reduce damage to the riparian vegetation or stream banks. Trees or products shall not be hauled or yarded across streamcourses unless fully suspended. Debris in streamcourses resulting from falling or yarding Included Timber shall be removed immediately to a stable location above high water mark. Existing natural stable debris shall be left undisturbed. The Forest Service may require individual felled, or portions of felled trees that have entered streamcourses to

be left unyarded. Trees or portions of trees to be left shall be clearly marked by the Forest Service prior to yarding

B6.5c:

Other streams and V-notches designated for soil and water quality protection are marked with green and white striped flagging and will be protected in the following manner unless agreed otherwise in writing:

In so far as practical, trees shall be felled and yarded away from streamcourses. The trees that cannot be felled away from streamcourses shall be felled to bridge the stream providing these trees will be yarded during the same operating season. Trees felled to bridge streamcourses shall be bucked, limbed, and topped clear of streamcourse and its banks. Debris consisting of large unmerchantable pieces, root wads, or large accumulations of slash resulting from falling or yarding Included Timber, which restrict natural water flow, adversely affect water quality or have potential for debris flow, shall be removed to a stable location above high water mark before the yarder leaves the unit or upon completion of seasonal logging activities in the unit, whichever comes first.

It was felt, by the IDT, that the "full suspension" requirement of B6.5b needs further clarification to avoid confusion during the implementation process. Yarding across streams described in Provision B6.5b is normally avoided by locating divisions between cable yarding settings (splitlines) on the streamcourses so that trees will be yarded away from streamcourses. Because of the meandering nature of some streamcourses it is recognized that occasional logs may be yarded across the streamcourse during the normal yarding operation.

It is also understood that where cable yarding splitlines are designed to minimize yarding of logs across streamcourses, windfirm non-merchantable trees will be left standing to help maintain streambank stability and occasionally windfirm merchantable trees may be left standing to achieve the objective of providing for biological diversity and reserve tree retention needed for wildlife.

Ecosystem Management

Ecosystem management is an evolving concept that has recently been addressed by the Forest Service on a nationwide basis. Region 10 has developed an implementation strategy that embodies the concepts formalized by the Chief of the Forest Service. The goal is to provide silvicultural prescriptions for each proposed harvest unit that consider the larger ecosystem context within which the unit lays. As such, the individual unit plans will be used as a diagnostic tool for the development of silvicultural prescriptions prior to individual unit harvest. The silvicultural prescriptions will site specifically depict pre- and post harvest silvicultural treatments of stands as they relate to ecosystem management strategies.

Because clearcutting is the optimal silvicultural treatment prescribed for the Spruce-Hemlock types found in the project area, it is assumed as the preferred treatment for individual units unless otherwise noted.

Logging Engineering Requirements

It is assumed that unless otherwise stated in the unit plan design, Partial suspension is the yarding objective desired. All units are designed to meet at least the objective of partial suspension of logs when utilizing cable logging systems. This includes the use of highlead systems where partial suspension can be achieved for only relatively short distances.

Furthermore, unless otherwise stated the logging system is assumed to be the cheapest system that will meet this objective. This is normally a running skyline.

Road Engineering Requirements

Special designs for crossing moderate and steep-sloped Class I streams are assumed for all roads. These are streams with a high risk of blocking migration of anadromous fish. Either bridges or special designed culvert pipes will be used. Culverts will be oversized squash pipes buried below the natural stream bottom, be fitted with baffles to hold stream gravel, and be sufficiently wide to cause no restriction of the stream bottom. See the road cards for further details.

Road Descriptions

Purpose and Use

The road descriptions in this appendix display the road management objectives of each road, the proposed road construction activity, best management practices (BMPs) required, and other mitigation measures as designed by the interdisciplinary team (IDT). To help resolve concerns for the protection of fishery resources, the following four points are particularly discussed:

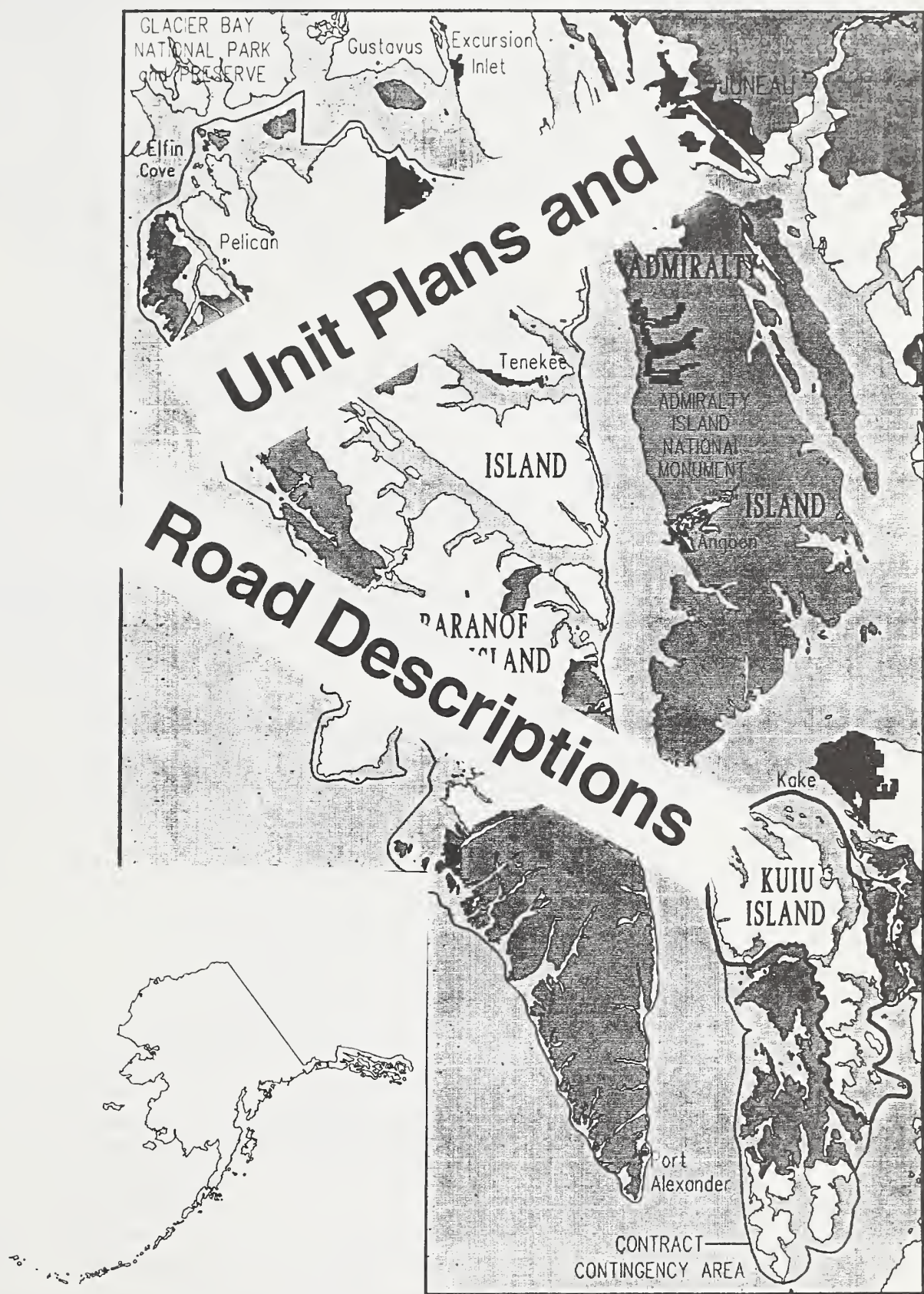
- 1) A description of each stream (all fish-bearing streams and all non-fish streams that are estimated to require greater than a 36-inch CMP) at the crossing is provided, including physical characteristics and stream class. If the structure must be designed to provide fish passage (BMP 14.17), this is clearly stated. Fish passage has been planned for all anadromous crossings and most resident sites.
- 2) In all cases, alteration of streambanks will be minimized and restricted to that necessary for the stream crossing. Disturbed streambanks will be stabilized to minimize erosion and sedimentation of the stream (particularly by application of BMP's 12.7, 14.5 and 14.8).
- 3) Construction activities will avoid sensitive life stages. Site specific construction timing restrictions are specified for in-stream activities, due to the chance that sedimentation from construction may be harmful to salmon eggs and incu-

bating fry (BMP 14.6 E4). If pink or chum salmon spawn in the stream at the crossing site or a short distance downstream the generic window for construction will be June 1 to August 15. If sockeye salmon spawn in the stream at the crossing site or a short distance downstream the generic window for construction will be June 1 to August 1. The objective is to schedule the stream disturbing activity during an interval when the eggs and incubating fry are not in the stream gravel. If only coho salmon spawn at or a short distance downstream from the crossing the generic window will be June 1 to September 15. The extension of the far end of the window for coho is because coho enter and spawn in streams later in the season than pink or chum salmon. If timing restrictions are required, it is stated which window applies.

4) The installation of crossing structures will be conducted in a manner that maintains fish and their habitats. The type of fish habitat (spawning or rearing) is described for each anadromous crossing. At all sites where anadromous fish spawning habitat is present, this resource will be protected by designing structures that maintain the natural stream bottom (generally bridges).

A road description is included for each new road proposed in this project that is necessary as a permanent part of the National Forest Transportation System. These descriptions will be used throughout the planning, implementation, and monitoring phases of this project. During project implementation they will be referred to when the Road Construction Approval Notice (Contract Sec. B6.312) is being prepared. At this time mitigation measures and BMPs identified by the IDT on the road card will be carried forward as special conditions of the approval for construction. During monitoring they will be used as a tracking tool to make sure that what was planned was actually accomplished.

It is likely that there will be some minor changes to the roads as described on these road cards. Modifications to the road location as shown on the road card will be documented on a modified road card and included in the implementation file along with the original road card. The proposed change, the reason for the change, along with the expected results, will be documented. The modification will be recommended by the Forest Engineer, and must be approved by the designated Deciding Officer. The Deciding Officer will determine whether further NEPA, NFMA, ANILCA, CZMA or other documentation, opportunity for public involvement, or other action is necessary before proceeding with any action that deviates from the planned activity.



UNIT 399-13

Acres: 76 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 6, Photo# 93 USGS 1/4 QUAD MAP #: PTA D1 SW
Net Vol/Ac: 20 MBF/Acre Total Net Unit Volume: 1,501 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class II stream east of unit - maintain riparian buffer.
Two Class III streams in unit - maintain streambank stability.
South winds predominate - maintain windfirm buffer and backline.
Possible unstable soils on upper slopes - maintain soil stability

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain buffer of at least 100 feet between unit and Class II stream to the east (BMP 12.6). Two Class III streams within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9 and E11).

B. Transportation System:

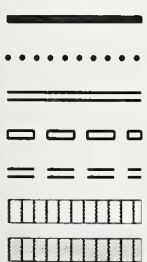
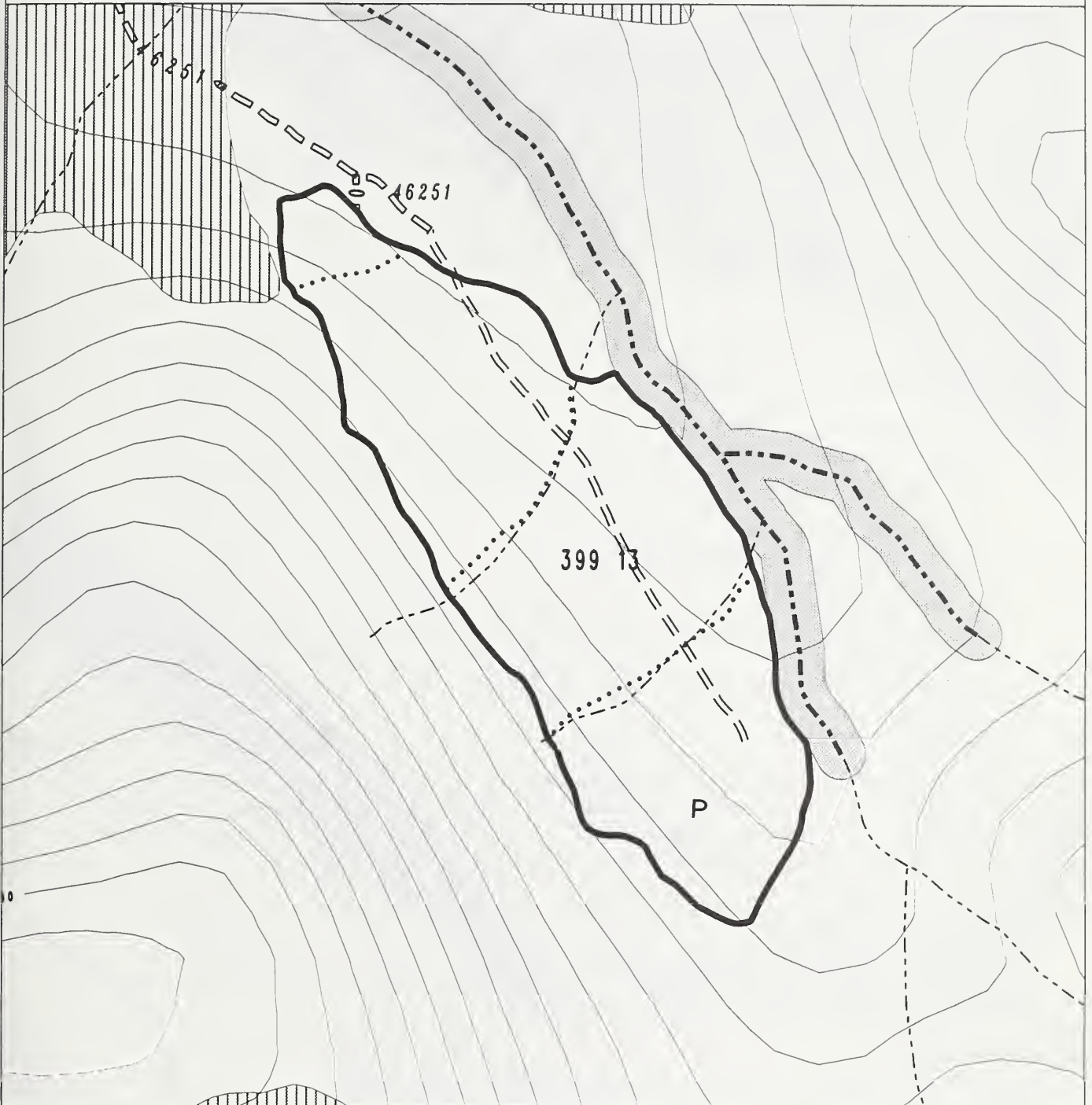
Specified road 46251 ends at the southeast end of muskeg at the north end of the unit. Temporary spur will continue into unit. Future helicopter yarding can use muskeg area as a landing.

C. Unit Design:

Upper unit boundary is located at slope break to protect soils.
Partial suspension on steep slope on south end of unit.
Unit boundary parallels wind direction providing windfirmness.
Recommend running skyline to minimize soil disturbance (BMP 13.9).

UNIT MAP

399 - 13



UNIT BOUNDARY

SETTING BOUNDARY

EXISTING SPECIFIED ROAD

PROPOSED SPECIFIED ROAD

PROPOSED TEMPORARY ROAD

HARVESTED UNIT

UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



F

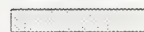
FULL SUSPENSION YARDING

P

PARTIAL SUSPENSION YARDING



SALTWATER



100' TTRA BUFFER



LAKES



STREAM - CLASS I



STREAM - CLASS II



STREAM - CLASS III



UNIT 399-16

Acres: 86 Alternative: 2, 4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 5, Photo# 81 USGS 1/4 QUAD MAP #: PTA D1 NW
Net Vol/Ac: 39 MBF/Acre Total Net Unit Volume: 3,345 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Lake west of unit - maintain wildlife corridor between unit and lake.
Northern half of unit is visible from salt water - meet the partial retention VQO.
SE winds predominate - maintain windfirm boundaries.
Access adjacent land - locate specified road for future use.

II. IMPLEMENTATION ACTIVITIESA. Ecosystems Management1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

No inventoried streams in unit.

3. Wildlife Habitat:

Maintain a 200-foot buffer between unit and lake to protect wildlife habitat (BMP 12.6).

Maintain a 500-foot buffer between unit and beach to protect wildlife habitat.

4. Visuals:

Unit is within the South Saginaw viewshed. Cool and Ledge Lakes are within the northern half of this viewshed. Topography is gently rolling to 600 foot elevation and is interspersed with hills and ridges which add variety and diversity to this landscape.

B. Transportation System:

Road 46252 is specified to last landing in unit to maintain options for accessing volume beyond the unit. A temporary spur wraps back along the bench above slope break of the beach fringe.

C. Unit Design:

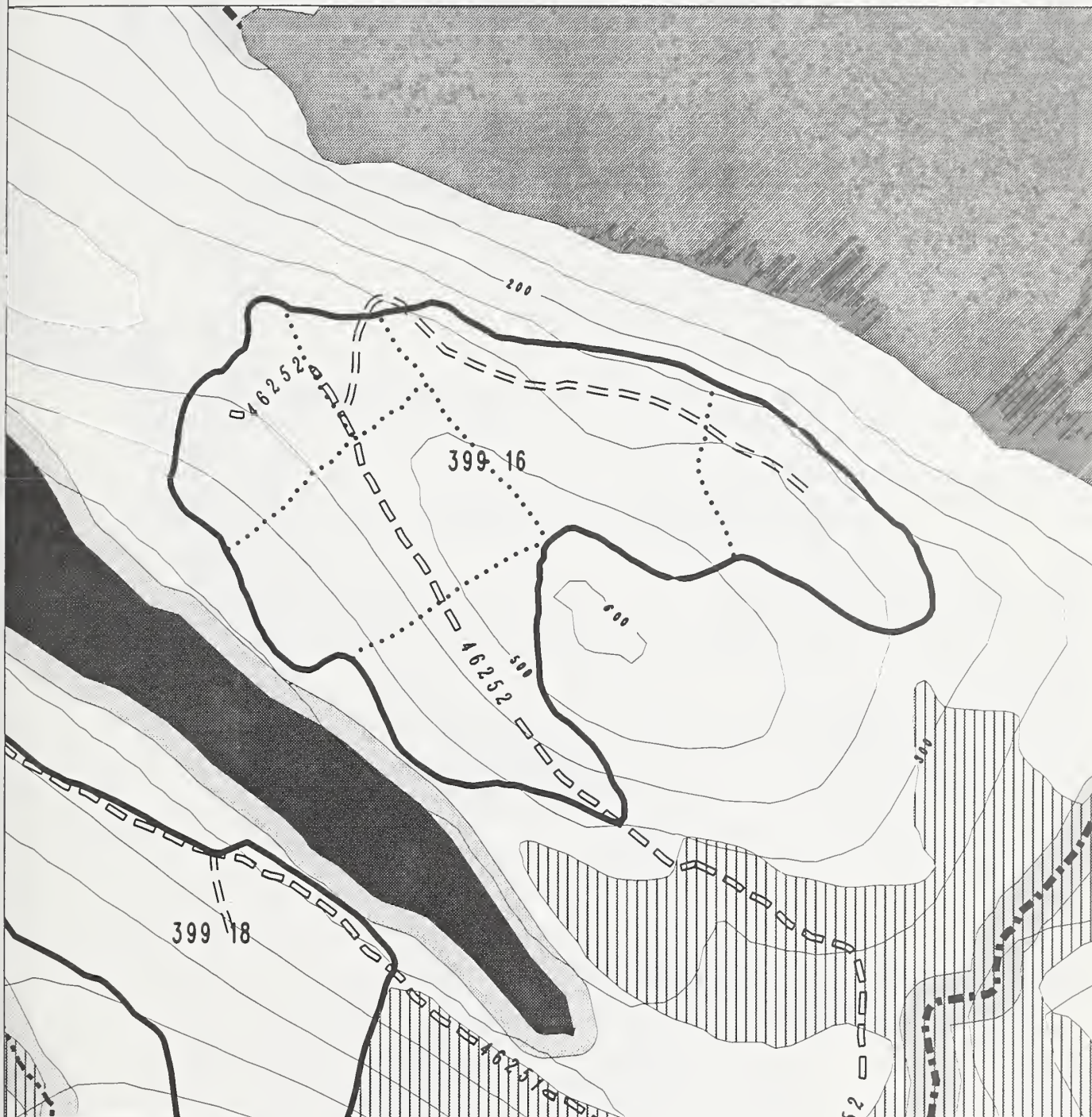
Both buffers are parallel to wind and should be windfirm.

Greatest potential for blowdown is in north corner.

Backline of the northeastern settings are irregular and undulating to meet the visual objective.

UNIT MAP

399 - 16



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



UNIT 399-17

Acres: 67 Alternative: 2,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 4, Photo# 25 USGS 1/4 QUAD MAP #: PTA D1 NW
Net Vol/Ac: 26 MBF/Acre Total Net Unit Volume: 1,774 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Dean Creek, a Class I stream, is west of unit, class II stream near SW corner of unit and north of unit - maintain riparian buffer.
SW winds predominate - maintain windfirm boundaries.

II. IMPLEMENTATION ACTIVITIESA. Ecosystems Management1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot riparian buffer between unit and Dean Creek and the class II streams SW and north of unit (BMP 12.6). Unit, as planned, will be 200-300' from Dean Creek.

B. Transportation System:

Unit is accessed by temporary spur. Any future harvest of volume to the north would be yarded by helicopter.

C. Unit Design:

Northern boundary is along scrub timber parallel to wind direction. SE boundary is along existing young second growth stand.

UNIT MAP

399 - 17



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 399-18

Acres: 55 Alternative: 2, 4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 80 USGS 1/4 QUAD MAP #: PTA D1 SW
Net Vol/Ac: 42 MBF/Acre Total Net Unit Volume: 2,291 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class II stream SW of unit - maintain riparian buffer.
Protect wildlife habitat around lake - maintain corridor.
South and southeast winds predominate - maintain windfirm lake buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot riparian buffer between unit and Class II stream to the southwest (BMP 12.6).

3. Wildlife

Maintain travel corridors and habitat for wildlife by providing a 200-foot buffer around the lake. This corridor connects the old-growth blocks of Cool Lake and Security.

B. Transportation System:

Specified road 46251 follows bench above lake. One 300-foot spur into unit is planned.

C. Unit Design:

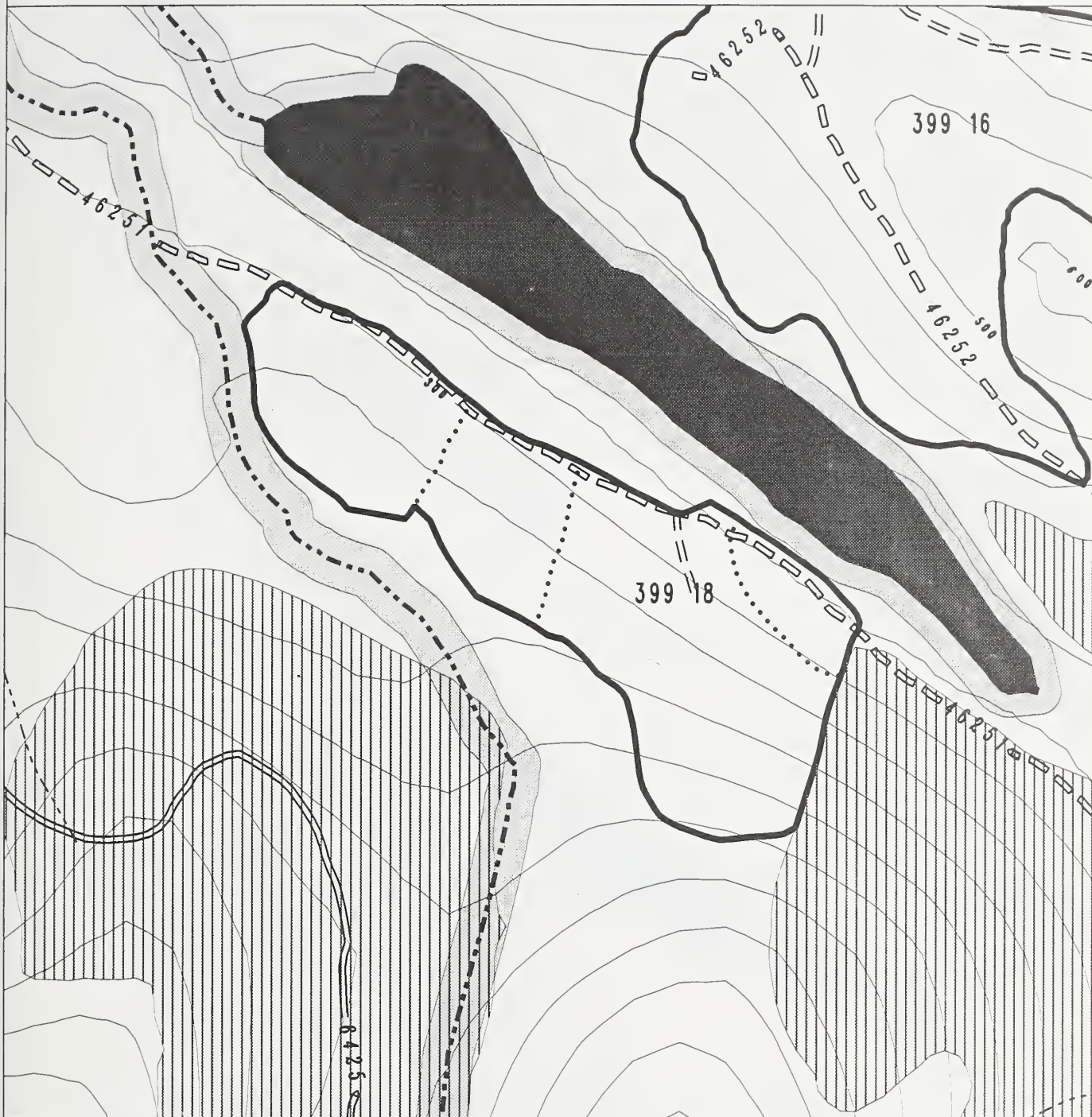
Keep unit boundary at least 200 feet from lake.

Shovel yard in northwest setting (BMP 13.7), running skyline in remainder of unit.

Lake buffer is parallel to southeast winds and is protected by ridge to the south.

UNIT MAP

399 - 18



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



UNIT MAP

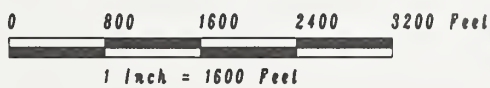
399 - 19



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 399-20

Acres: 33 Alternative: 2, 4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 9, Photo# 154 USGS 1/4 QUAD MAP #: PTA D1 SE
Net Vol/Ac: 16 MBF/Acre Total Net Unit Volume: 528 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

There are no known resource concerns in this area.
SE wind predominate - maintain windfirm boundaries.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

B. Transportation System:

Specified road 46092 runs through unit. A temporary spur climbs up into unit. Specified road will be located with a future junction just south of the unit. This will allow for access to the southeast above the lake.

C. Unit Design:

Unit surrounded by windfirm scrub timber.

UNIT MAP

399 - 20



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 399-21

Acres: 76 Alternative: 2, 4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 9, Photo# 154 USGS 1/4 QUAD MAP #: PTA D1 SE
Net Vol/Ac: 15 MBF/Acre Total Net Unit Volume: 1,114 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit visible in the background from saltwater - meet the modification VQO.
SE winds predominate - maintain windfirm boundaries.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Visuals:

Unit is within the North Saginaw viewshed which has been visibly altered by timber harvest activities in the past. Topography is broken with irregular ridges and landforms near the saltwater.

B. Transportation System:

Specified road 46092 runs along northwest boundary. 3/4 mile spur runs through middle of unit.

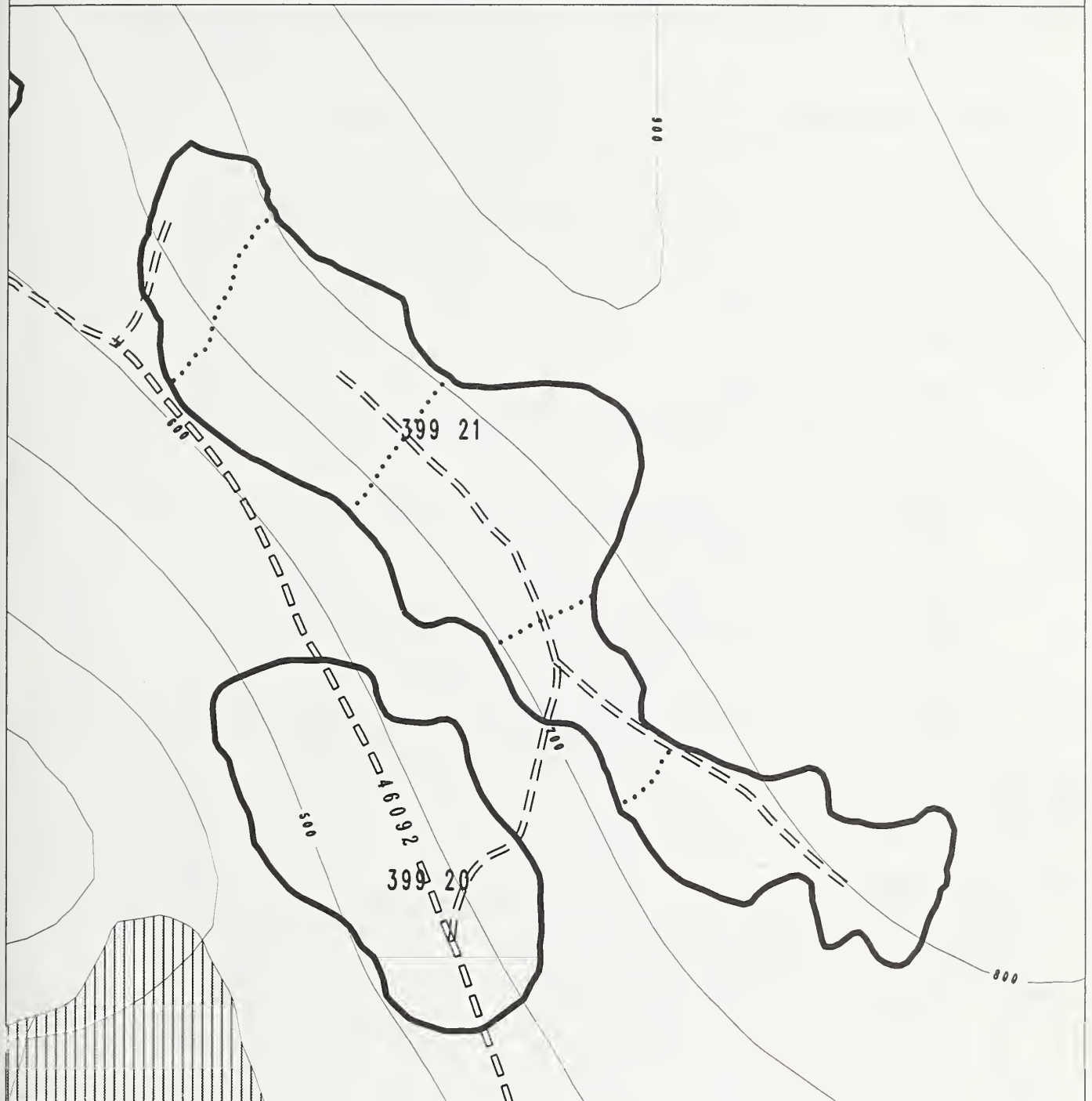
C. Unit Design:

Irregular backline in conjunction with background viewing distance will meet the visual objective.

Unit surrounded by scrub timber to provide windfirm boundaries.

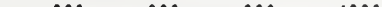
399 - 21

399 - 21

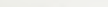
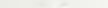


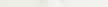
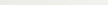
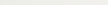
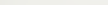


100 Ft Contour Interval







0 330 660 990 1320 Peel



1 inch = 660 Peel

	UNIT BOUNDARY	
	SETTING BOUNDARY	0 
	EXISTING SPECIFIED ROAD	
	PROPOSED SPECIFIED ROAD	
	PROPOSED TEMPORARY ROAD	
	HARVESTED UNIT	
	UNIT HARVESTED BEFORE TTRA	

F FULL SUSPENSION YARDING
P PARTIAL SUSPENSION YARDING

	SALTWATER
	100' TTRA BUFFER
	LAKES
	STREAM - CLASS I
	STREAM - CLASS II
	STREAM - CLASS III



UNIT 399-22

Acres: 49 Alternative: 2, 4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 9, Photo# 154 USGS 1/4 QUAD MAP #: PTA C1 NE&SE
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 1,024 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class III stream along northwest boundary of unit - maintain streambank stability.

Unit is visible in the background from saltwater - meet modification VQO.
SE winds predominate - maintain windfirm boundaries.

II. IMPLEMENTATION ACTIVITIESA. Ecosystems Management1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Buffer as shown on unit plan map is approximately 200 feet wide and should maintain streambank stability on channel (BMP 12.6).

3. Wetlands:

Beaver pond wetland area to northwest of unit. Avoid impacts to wetlands by implementing BMP 13.15.

4. Visuals:

Unit is within the North Saginaw viewshed which has been visibly altered by timber harvest activities in the past. Topography is broken with irregular ridges and landforms near the saltwater.

B. Transportation System:

Unit accessed by 1/2 mile of temporary spur.

C. Unit Design:

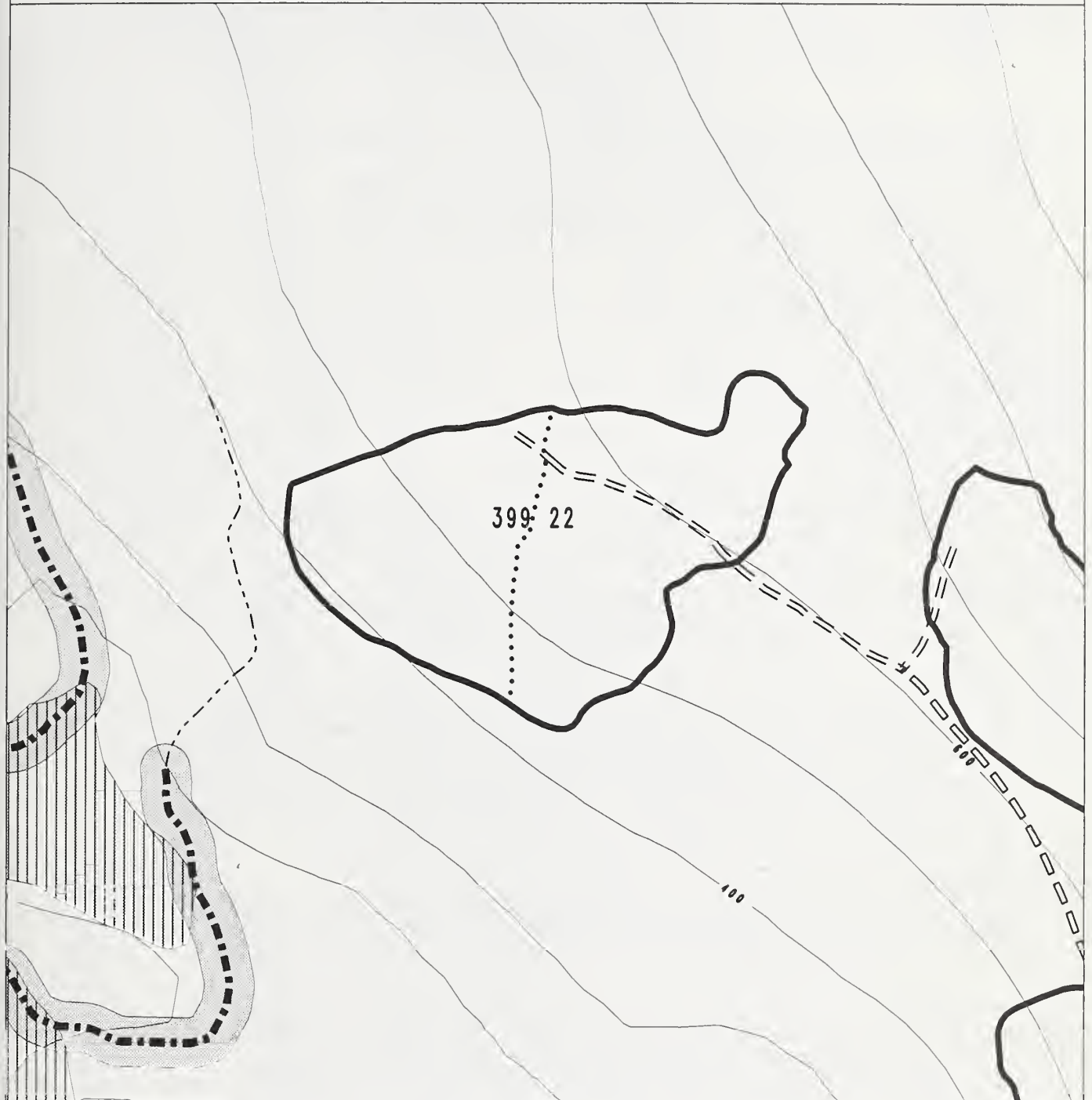
See discussion under "Aquatic Habitat" and "Wetlands".




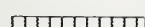

Irregular, undulating boundary is essential to meeting the visual objective as seen in the background viewing distance.

Unit surrounded by scrub timber to provide windfirm boundaries.

UNIT MAP

399 - 22





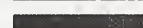
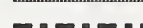
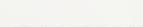
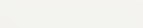
-  UNIT BOUNDARY
-  SETTING BOUNDARY
-  EXISTING SPECIFIED ROAD
-  PROPOSED SPECIFIED ROAD
-  PROPOSED TEMPORARY ROAD
-  HARVESTED UNIT
-  UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

-  SALTWATER
-  100' TTRA BUFFER
-  LAKES
-  STREAM - CLASS I
-  STREAM - CLASS II
-  STREAM - CLASS III



UNIT 400-8

Acres: 56 Alternative: 2,4 LUD: IV Mgmt. Area: SO
1977 Aerial Photo: Flight# 5, Photo# 73 USGS 1/4 QUAD MAP #: PAX D1 SW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1,206 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Wildlife travel corridor - maintain corridor.

Unit is visible from salt water - meet modification VQO.

Winds from the south predominate - maintain windfirmness.

Class III stream in south portion of unit - protect stream channel stability.

Possible unstable soils on upper slope in area adjacent to the SE boundary - maintain soil stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream in south portion of unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9).

3. Visuals:

The landscape is viewed in the middleground distance and is part of the Security Bay viewshed. Past timber harvest dominates the east Security viewshed; where landscapes are gently rolling, with valleys and ridges interspersed through the area. Landscapes in west Security and the inner lagoon area rise sharply, with steep slopes creating a dramatic landscape setting.

B. Transportation System

Unit lies between existing roads 6402 and 6401. Two short spurs are planned. Specified road 46011 will access the upper settings and continue to units 400-9 and 400-10.

C. Unit Design

Unit is designed in conjunction with 400-21 to provide wildlife travel corridor from Security Creek to the ridge above the units.

Unit shape and location is essential to meeting the visual objective.

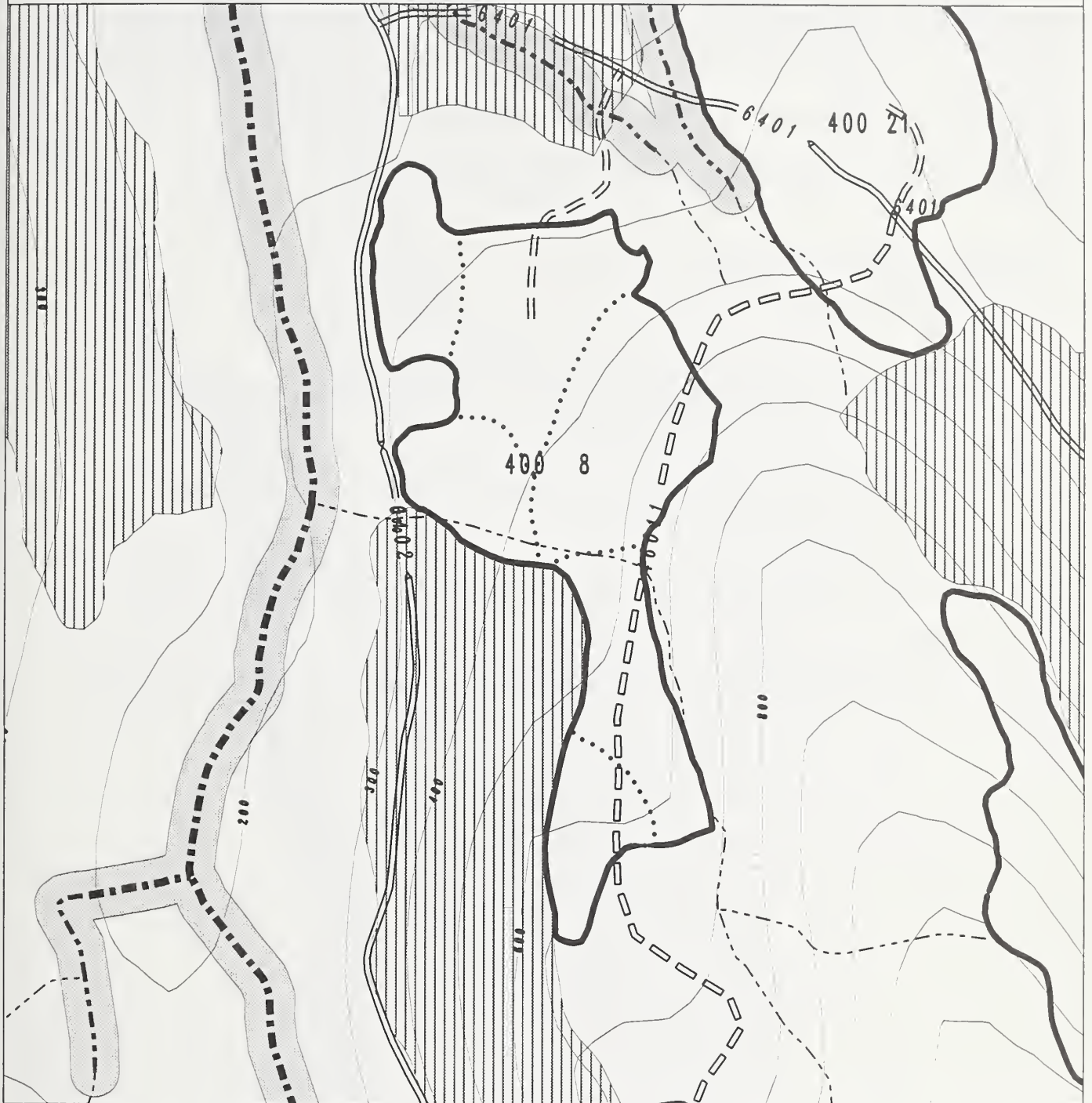
Steep ground to east of unit is avoided by locating boundary on Class III stream.

Recommend shovel yarding in two northwest settings; running skyline in other settings.

Unit is oriented parallel to prevailing storm winds to minimize windthrow. North boundary located along scrub timber that should be windfirm.

UNIT MAP

400 - 8



100 Ft Contour Interval

- UNIT BOUNDARY**
- SETTING BOUNDARY**
- EXISTING SPECIFIED ROAD**
- PROPOSED SPECIFIED ROAD**
- PROPOSED TEMPORARY ROAD**
- HARVESTED UNIT**
- UNIT HARVESTED BEFORE TTRA**



- F FULL SUSPENSION YARDING**
- P PARTIAL SUSPENSION YARDING**

- SALTWATER**
- 100' TTRA BUFFER**
- LAKES**
- STREAM - CLASS I**
- STREAM - CLASS II**
- STREAM - CLASS III**



NORTH AND EAST KUIU UNIT PLAN

UNIT 400-9

Acres: 58 Alternative: 2,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 5, Photo# 72 USGS 1/4 QUAD MAP #: PTA D1 SW
Net Vol/Ac: 26 MBF/Acre Total Net Unit Volume: 1,495 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class III stream east of unit - maintain stream channel.
Winds from the south predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream east of unit will be protected by contract provision B6.5b (BMP 13.16 E5, E9 and E11).

B. Transportation System:

Specified road 46011 runs along top of unit and to unit 400-10.

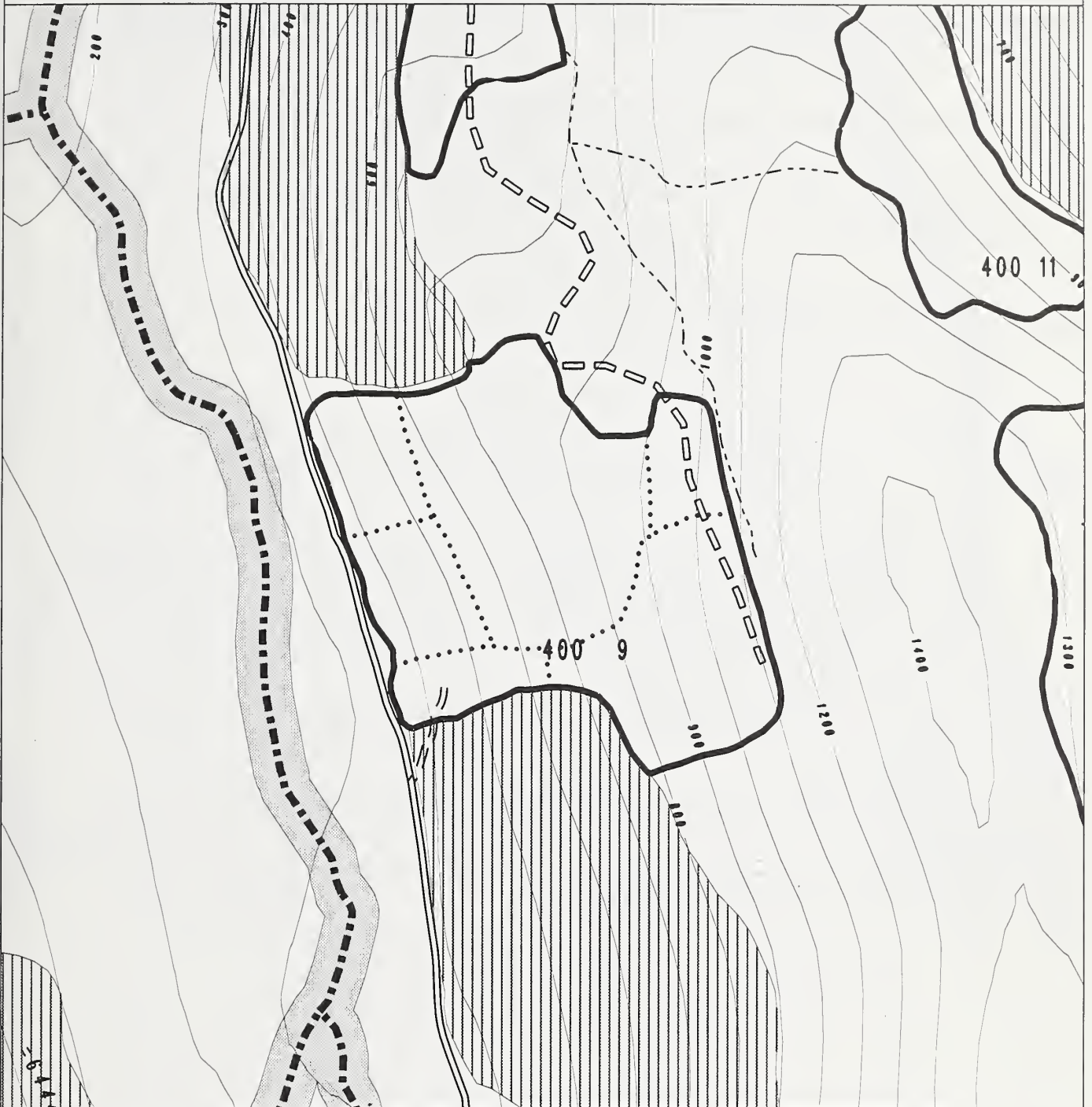
C. Unit Design:

Use Class III stream east of unit as boundary.

Northern boundary is along windfirm scrub muskeg and an existing harvest unit.

UNIT MAP

400 - 9



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet
1 Inch = 660 Feet

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 400-11h

Acres: 25 Alternative: 2,3,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 5, Photo# 72 USGS 1/4 QUAD MAP #: PTA D1 SW
Net Vol/Ac: 31 MBF/Acre Total Net Unit Volume: 771 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is visible from saltwater - meet modification VQO.

Access "difficult" component of the ASQ - develop techniques for managing this component.

Winds from the southeast predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Visuals:

The landscape is viewed in the middleground distance and is part of the Security Bay viewshed. Past timber harvest dominates the east Security viewshed; where landscapes are gently rolling. The inner lagoon area and west Security are pristine in character, where the landscapes rise sharply, with steep slopes creating a dramatic landscape setting.

B. Transportation System:

Helicopter landing on existing road. No new roads needed.

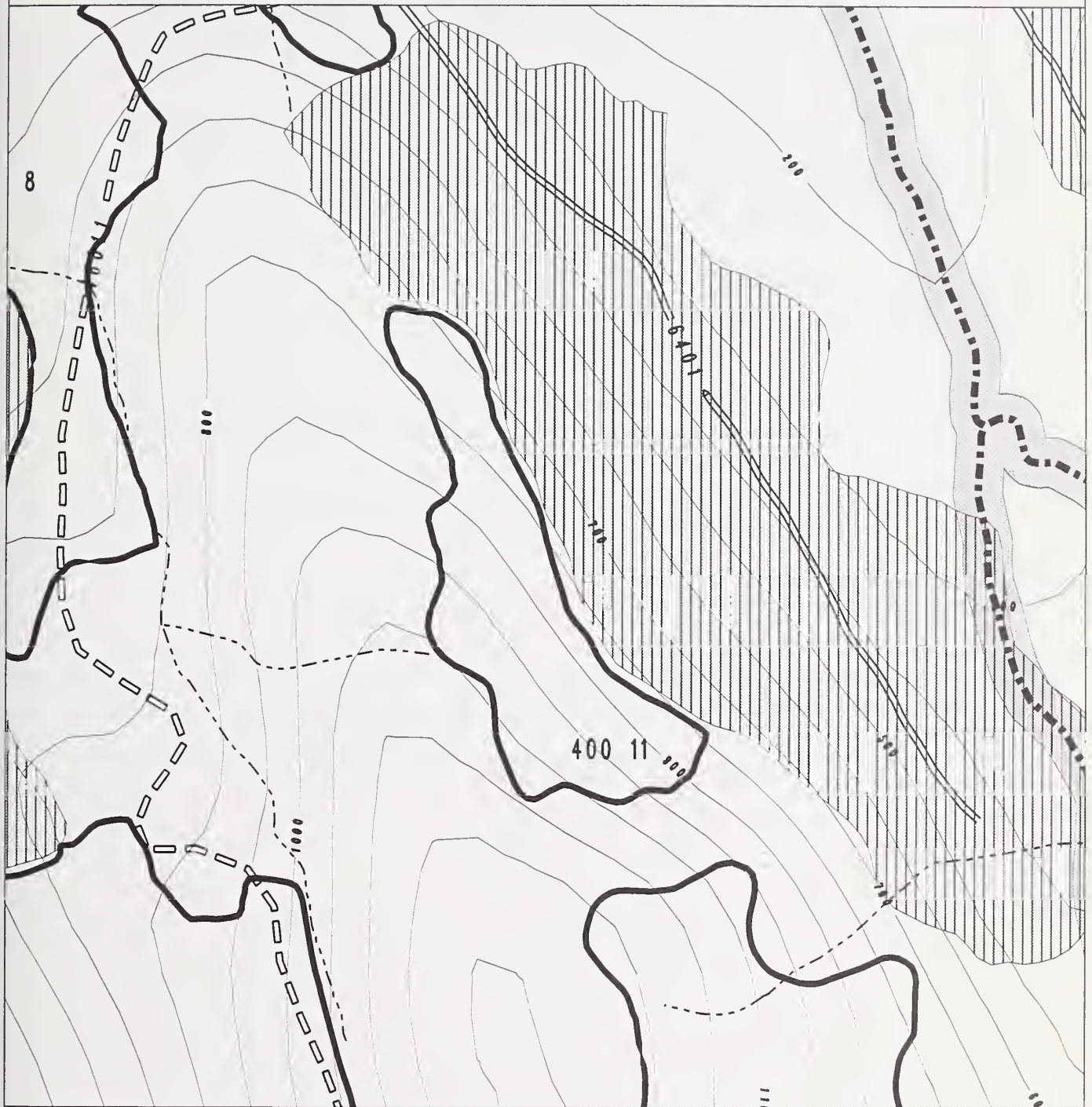
C. Unit Design:

Unit is planned for helicopter yarding, as it is isolated above the backline of an old harvest unit and is not accessible by road due to steep topography.

Unit boundaries are parallel to southeast winds and due to oblique viewing angle will meet the visual objective.

UNIT MAP

400 - 11



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



UNIT 400-12h

Acres: 71 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 71 USGS 1/4 QUAD MAP #: PTA D1 SW
Net Vol/Ac: 30 MBF/Acre Total Net Unit Volume: 2,143 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Access "difficult" component of the ASQ - develop techniques for managing this component.

Winds from the southeast predominate - maintain windfirmness.

Two Class III streams in unit - maintain stream channel stability.

II. IMPLEMENTATION ACTIVITIESA. Ecosystem Management1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Two Class III streams within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9 and E11).

B. Transportation System:

Helicopter landing on existing road. No new roads needed.

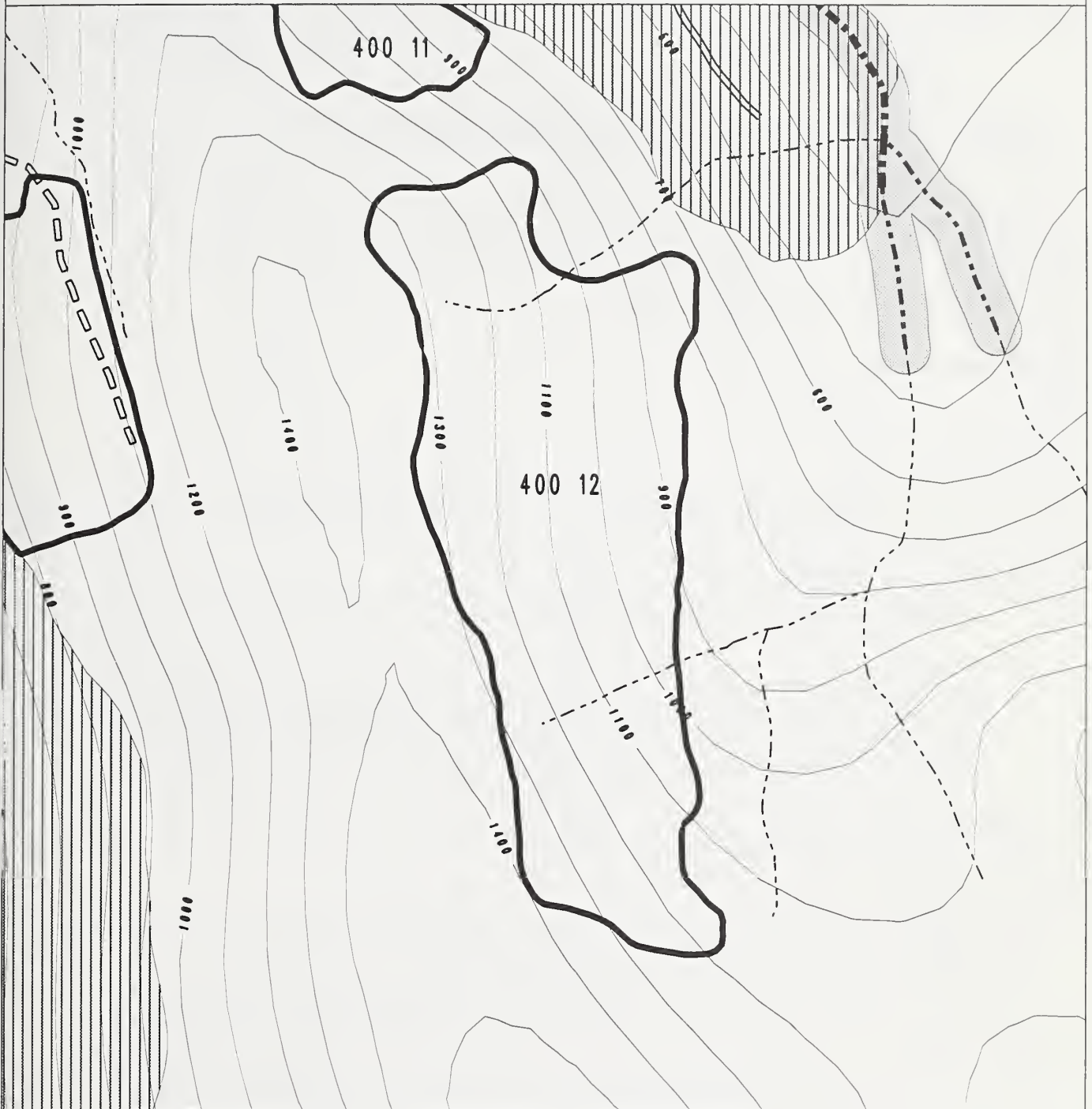
C. Unit Design:

Unit is planned for helicopter yarding. Unit is isolated above the backline of an old harvest unit and is not accessible by road due to steep topography.

Unit is oriented parallel to southeast winds. North boundary is located on a topographic break to minimize windthrow.

UNIT MAP

400 - 12



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 400-13

Acres: 109 Alternative: 2, 4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 75 USGS 1/4 QUAD MAP #: PTA D1 SW
Net Vol/Ac: 33 MBF/Acre Total Net Unit Volume: 3,591 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is visible from salt water - meet modification VQO.

Unit is located in an area with blowdown history, (south winds predominate)
- maintain windfirmness.

Two Class III streams in or along unit - maintain stream channel stability.

Unstable soils to the west of unit - assess slope stability and avoid

unstable areas. Moderate soil hazard on steep slopes in NW portion of unit

- minimize soil disturbance.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III streams in and bordering unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9).

3. Visuals:

The landscape is viewed in the middleground distance and is part of the Security Bay viewshed. Past timber harvest dominates the east Security viewshed; where landscapes are gently rolling. Unit is located on a ridge, wrapping to the east and facing inland.

B. Transportation System:

Specified road 46021 will access the unit.

C. Unit Design:

Use Class III stream on east side of unit as boundary. Western boundary is kept above unstable soils to west of unit. Partial suspension required on NW setting to protect moderately unstable soils.

Western boundary is undulating, using natural topography and slope breaks to minimize visual contrast as seen from Security Bay and meet the visual objective.

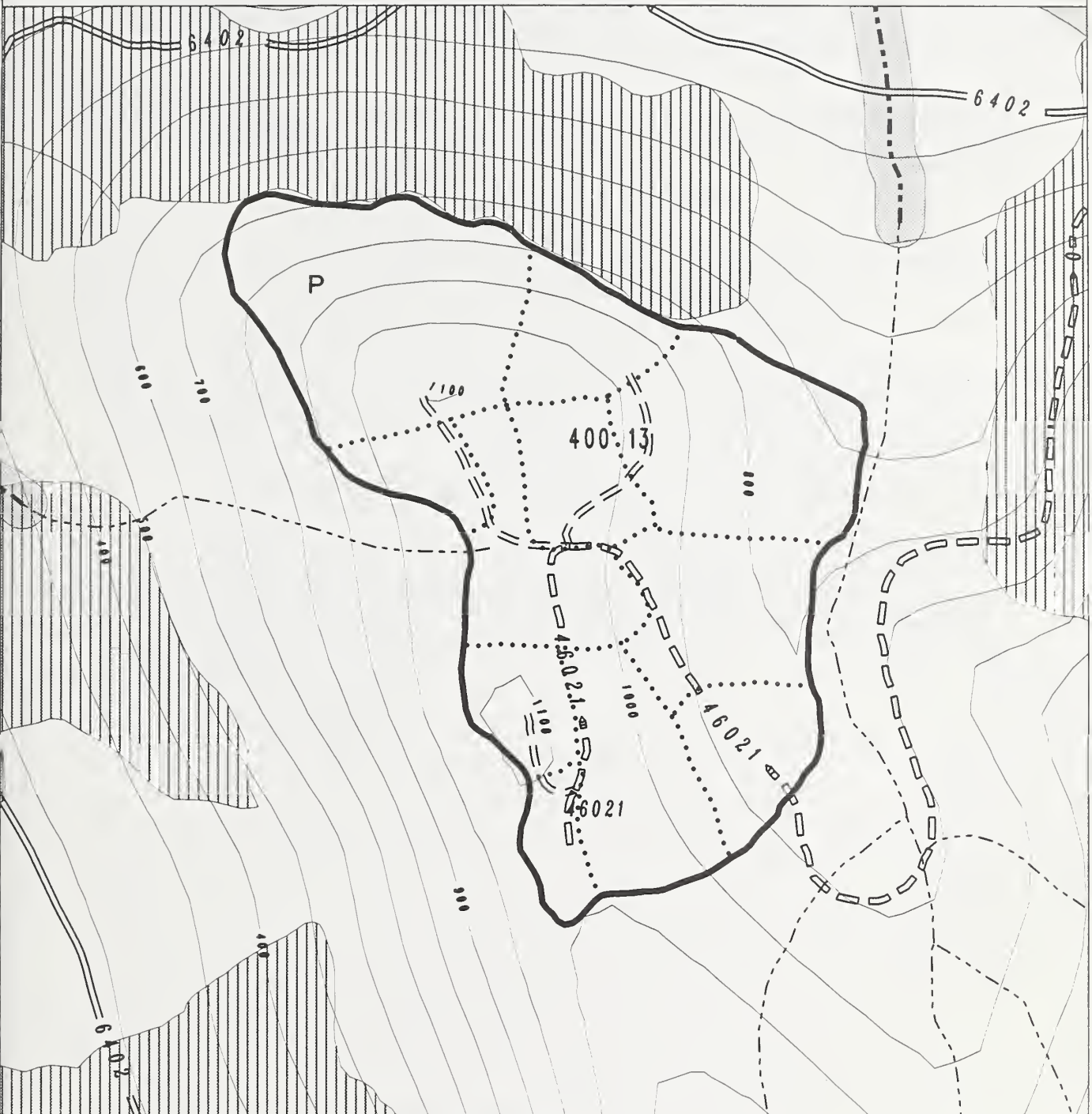
Unit is located parallel to prevailing storm winds to minimize windthrow.

The east portion of the north boundary is perpendicular to storm winds, but is partially protected by ridge south of unit. Remainder of northern boundary is located along existing harvest unit.

Recommend shovel yarding in two northwest settings; running skyline in other settings.

UNIT MAP

400 - 13



100 Ft Contour Interval



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 400-15h

Acres: 12 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 75 USGS 1/4 QUAD MAP #: PTA D1 SW
Net Vol/Ac: 40 MBF/Acre Total Net Unit Volume: 481 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Access "difficult" component of the ASQ - develop techniques for managing this component.

Winds from the south predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

B. Transportation System:

Helicopter landing on existing road. No new roads needed.

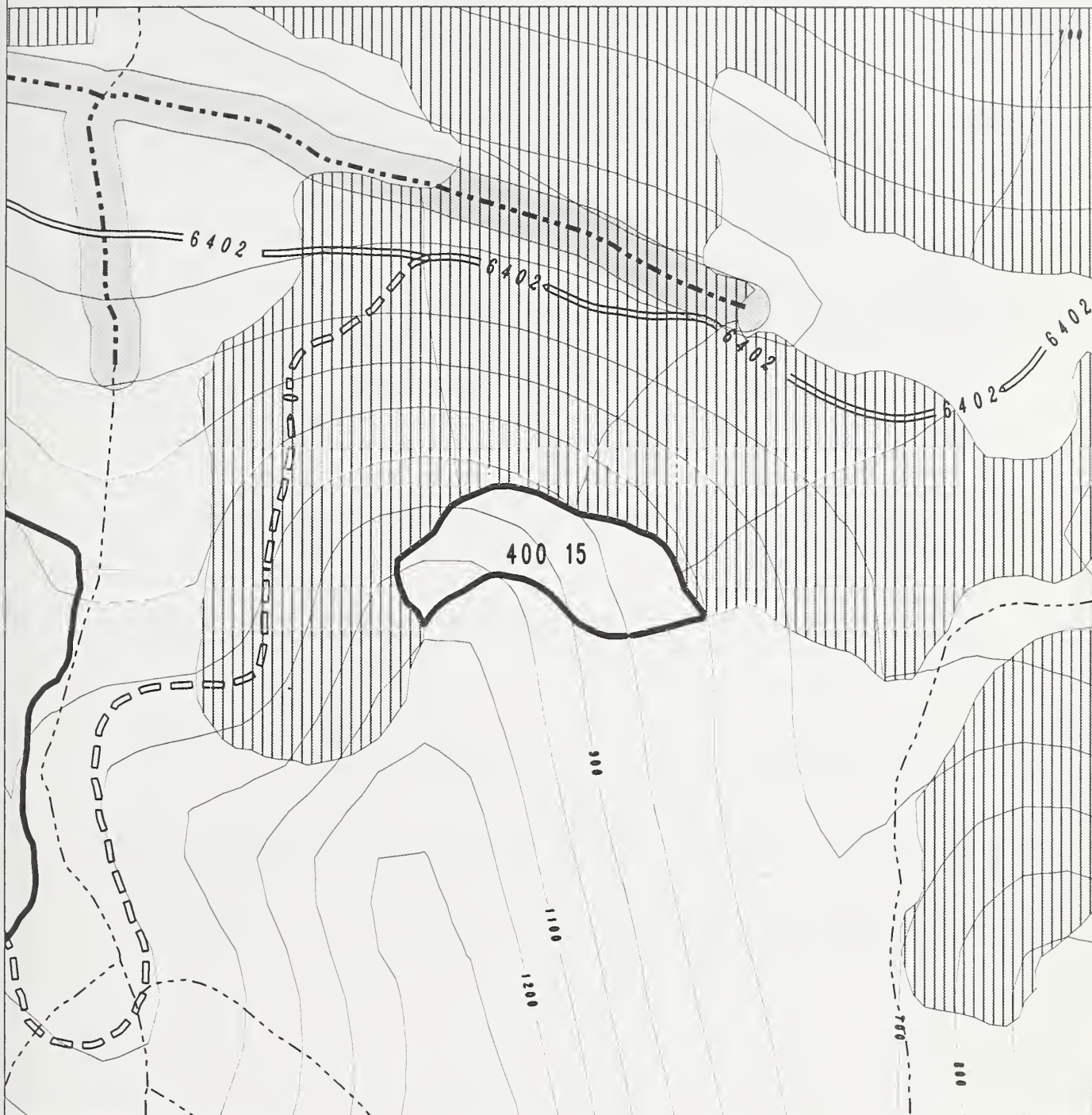
C. Unit Design:

Unit is planned for helicopter yarding, as it is isolated above the backline of an old harvest unit and is not accessible by road due to steep topography.

Windthrow is not a concern. Northern boundary is along existing harvest unit.

UNIT MAP

400 - 15



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 400-18h

Acres: 73 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 4, Photo# 26 USGS 1/4 QUAD MAP #: PTA D1 SW
Net Vol/Ac: 37 MBF/Acre Total Net Unit Volume: 2,671 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Access "difficult" component of the ASQ - develop techniques for managing this component.

Class III stream west of unit - maintain stream channel stability.

Unit is visible from salt water - VQ0 is modification.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9 and E11).

3. Visuals:

This landscape is viewed in the middleground distance from outside Security and Saginaw Bays. Past timber harvest dominates areas seen from these bays.

B. Transportation System:

Helicopter landing on existing road. No new roads needed.

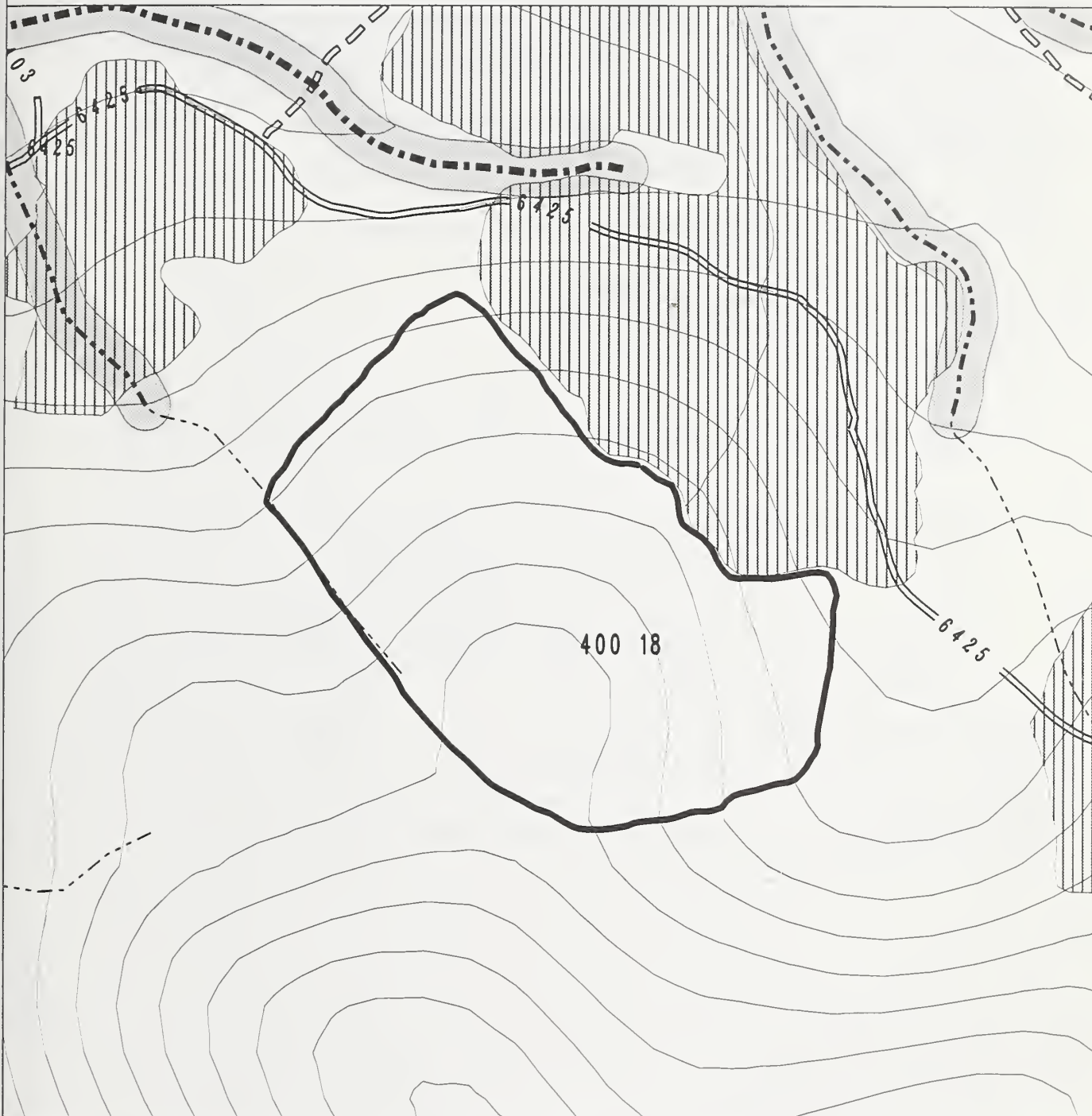
C. Unit Design:

Unit is planned for helicopter yarding, as it is isolated above the backline of an old harvest unit and is not accessible by road due to steep topography.

Northwest portion of unit adjacent to an old windthrow area. Northeast area is adjacent to older existing harvest unit.

UNIT MAP

400 - 18



100 Ft Contour Interval

UNIT BOUNDARY

SETTING BOUNDARY

EXISTING SPECIFIED ROAD

PROPOSED SPECIFIED ROAD

PROPOSED TEMPORARY ROAD

HARVESTED UNIT

UNIT HARVESTED BEFORE TTRA

F FULL SUSPENSION YARDING

P PARTIAL SUSPENSION YARDING

0 330 660 990 1320 Feet

1 inch = 660 Feet

SALTWATER

100' TTRA BUFFER

LAKES

STREAM - CLASS I

STREAM - CLASS II

STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 400-20

Acres: 67 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 78 USGS 1/4 QUAD MAP #: PTA D1 SW
Net Vol/Ac: 43 MBF/Acre Total Net Unit Volume: 2,908 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is visible from salt water - need modification VQO.
Class III stream to the northwest of unit - maintain stream channel stability
Winds from the south predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem Management

1. Vegetation

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream northwest of unit will be protected by contract provision B6.5b (BMP 13.16 E5, E9 and E11).

3. Visuals:

The area of concern is viewed in the middleground distance and is part of the Security Bay viewshed. Past timber harvest dominates the landscapes in this area.

B. Transportation System:

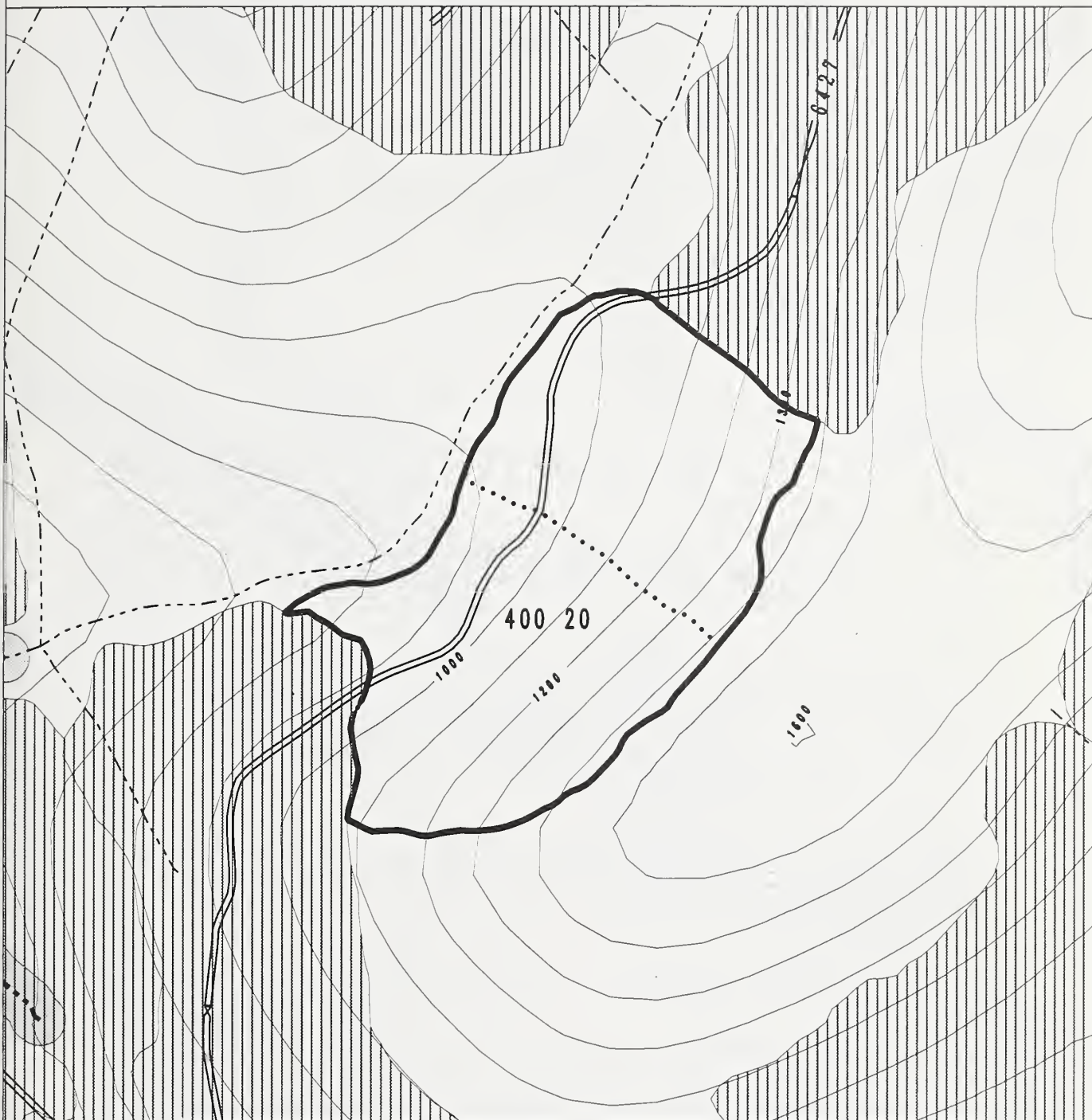
Existing specified road 6427 runs through unit.

C. Unit Design:

Unit is between two old harvest units and removes timber to eliminate windthrow risk.

UNIT MAP

400 - 20



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARNOING
- P PARTIAL SUSPENSION YARNOING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



UNIT 400-21

Acres: 42 Alternative: 2, 4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 73 USGS 1/4 QUAD MAP #: PTA D1 SW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 920 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Wildlife travel corridor - maintain corridor.

Unit is visible from salt water - meet modification VQO.

Winds from the southeast predominate - maintain windfirmness.

Class II stream to west of unit turns to Class III - protect stream channel stability.

II. IMPLEMENTATION ACTIVITIESA. Ecosystem Management1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class II stream near northwest corner of unit has a TTRA buffer. Class III stream to west of unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9).

3. Visuals:

This landscape is viewed in the middleground distance and is part of the Security Bay viewshed. Past timber harvest dominates east Security viewshed. The inner lagoon area and west Security are pristine in character, where the landscapes rise sharply, with steep slopes creating a dramatic landscape setting.

4. Wildlife:

Travel corridor along stream buffer designed to remain windfirm for wildlife corridor between Security Creek and the higher elevation habitat on the ridge.

B. Transportation System:

Existing road 6401 runs through unit. A short spur is planned.

C. Unit Design:

Unit is designed in conjunction with 400-8 to provide wildlife travel corridor from Security Creek to ridge above the units.

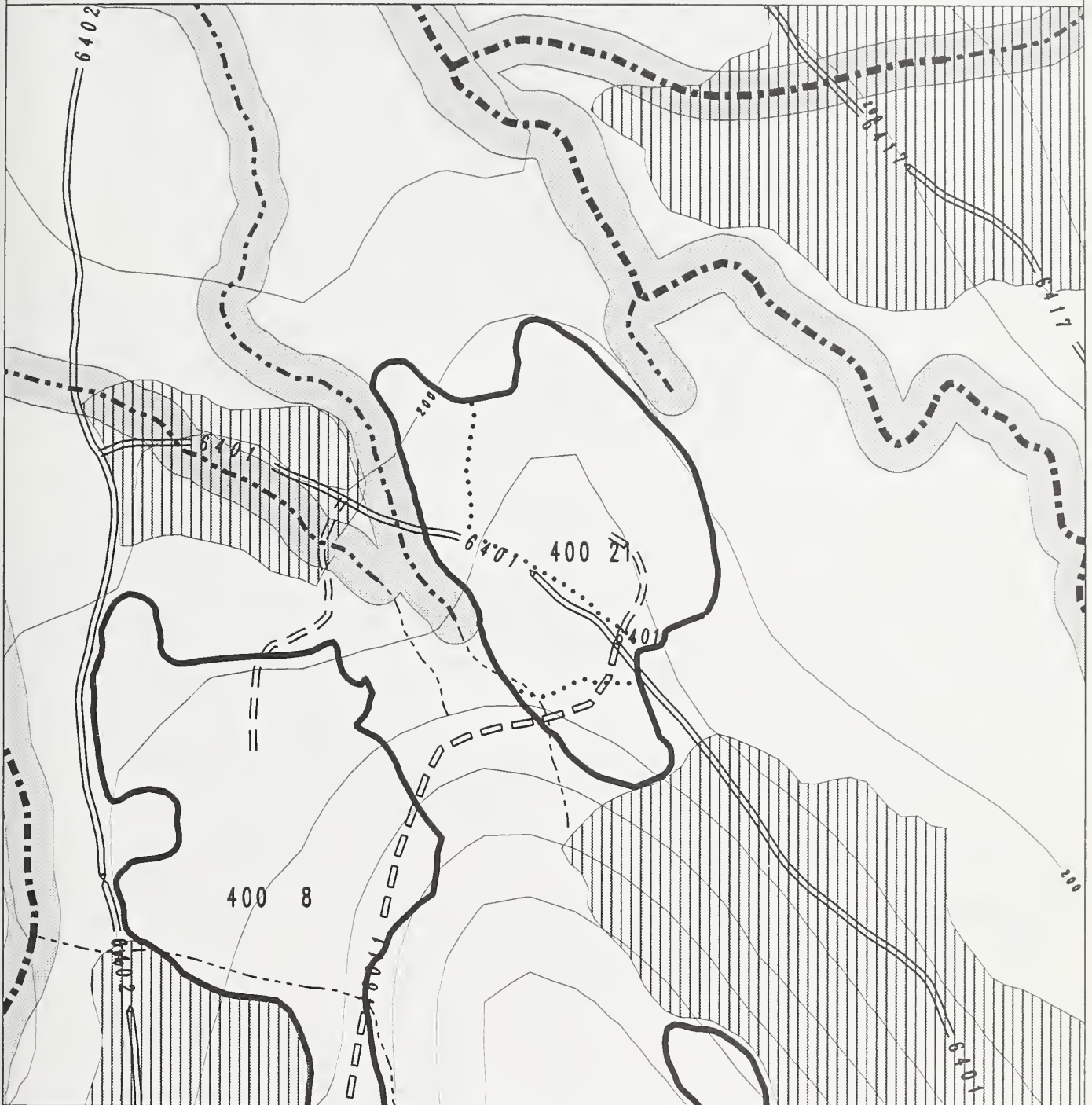
Unit shape and location is essential to meeting the visual objective.

Recommend shovel yarding in setting south of 6401 road; running skyline in other settings.

Unit is located parallel to prevailing winds to minimize windthrow.

UNIT MAP

400 - 21



100 Ft Contour Interval



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-16

Acres: 24 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 8, Photo# 97 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 501 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I stream north of unit - maintain riparian buffer.
Class II stream northeast of unit - maintain riparian buffer.
Class III stream east of unit - maintain stream channel stability.
Wildlife travel corridor - maintain corridor.
Moderately unstable soils in upper portion of unit - maintain soil stability.
Predominate winds from the south - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain buffer of at least 100 feet on Class I stream to the north of unit and the Class II stream northeast of unit(BMP 12.6).
Class III stream to the east of unit is protected by contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Wildlife Habitat:

Setting to the east of the unit is maintained to provide a wildlife travel corridor from valley bottom to the ridge.

B. Transportation System

Two short spurs are planned.

C. Unit Design

Eastern boundary defined by Class III stream.
Partial suspension required on entire unit.

UNIT MAP

402 - 16



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-17

Acres: 8 Alternative: 2, 4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 8, Photo# 97 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 176 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I stream west and Class II stream south of unit - maintain riparian buffers.

Unit located in area of historic windthrow, south winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers on the Class I and II streams adjacent to the unit (BMP 12.6).

B. Transportation System:

Unit will be accessed by temporary spur.

C. Unit Design:

Recommend shovel yarding.

Northern unit boundary is located along scrub timber to provide windfirmness.

UNIT MAP

402 - 17



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-18h

Acres: 67 Alternative: 2,3,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 8, Photo# 97 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 1,429 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit located in area of historic windthrow, south winds predominate - maintain windfirmness.
Wildlife travel corridor - maintain corridor.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Wildlife Habitat:

Unit, as designed, will provide wildlife travel corridors to east and west of unit.

B. Transportation System:

Planned helicopter unit will use existing landings in adjacent units.

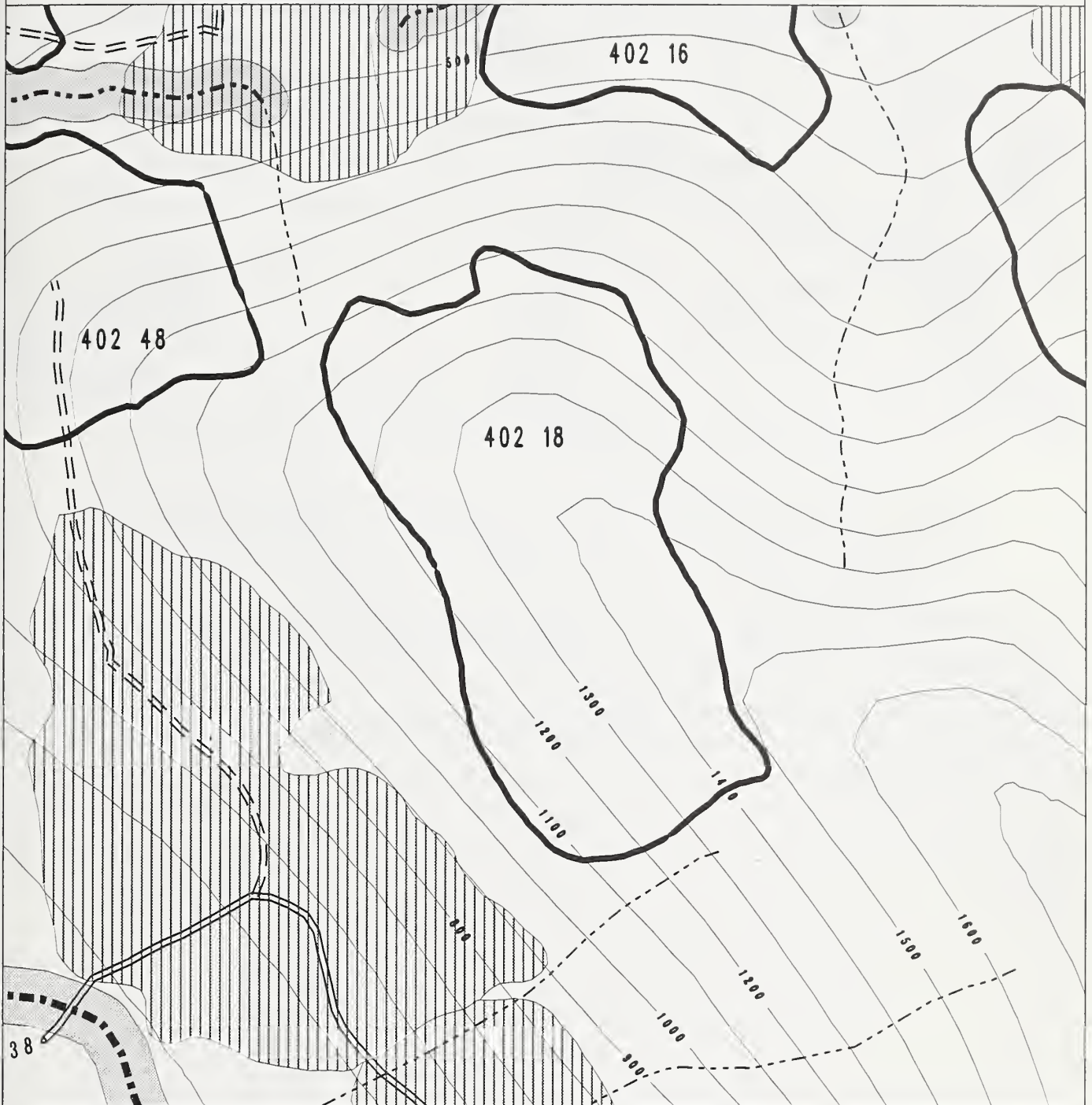
C. Unit Design:

Multi-entry plan for this valley is to progressively harvest units into the wind. Recommend helicopter yarding due to the length of road necessary to reach leeward end of ridge.

Northern portion of unit is located on leeward side to afford topographic protection from south winds.

UNIT MAP

402 - 18



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-20

Acres: 35 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 8, Photo# 97 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 23 MBF/Acre Total Net Unit Volume: 805 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Protect Class III streams within and west of unit - maintain stream channel stability.

Winds from the southeast predominate - maintain windfirmness. .

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Protect Class III stream within unit with contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned. Class III stream west of unit forms unit boundary.

B. Transportation System

Two short temporary spurs are planned from existing road 6430.

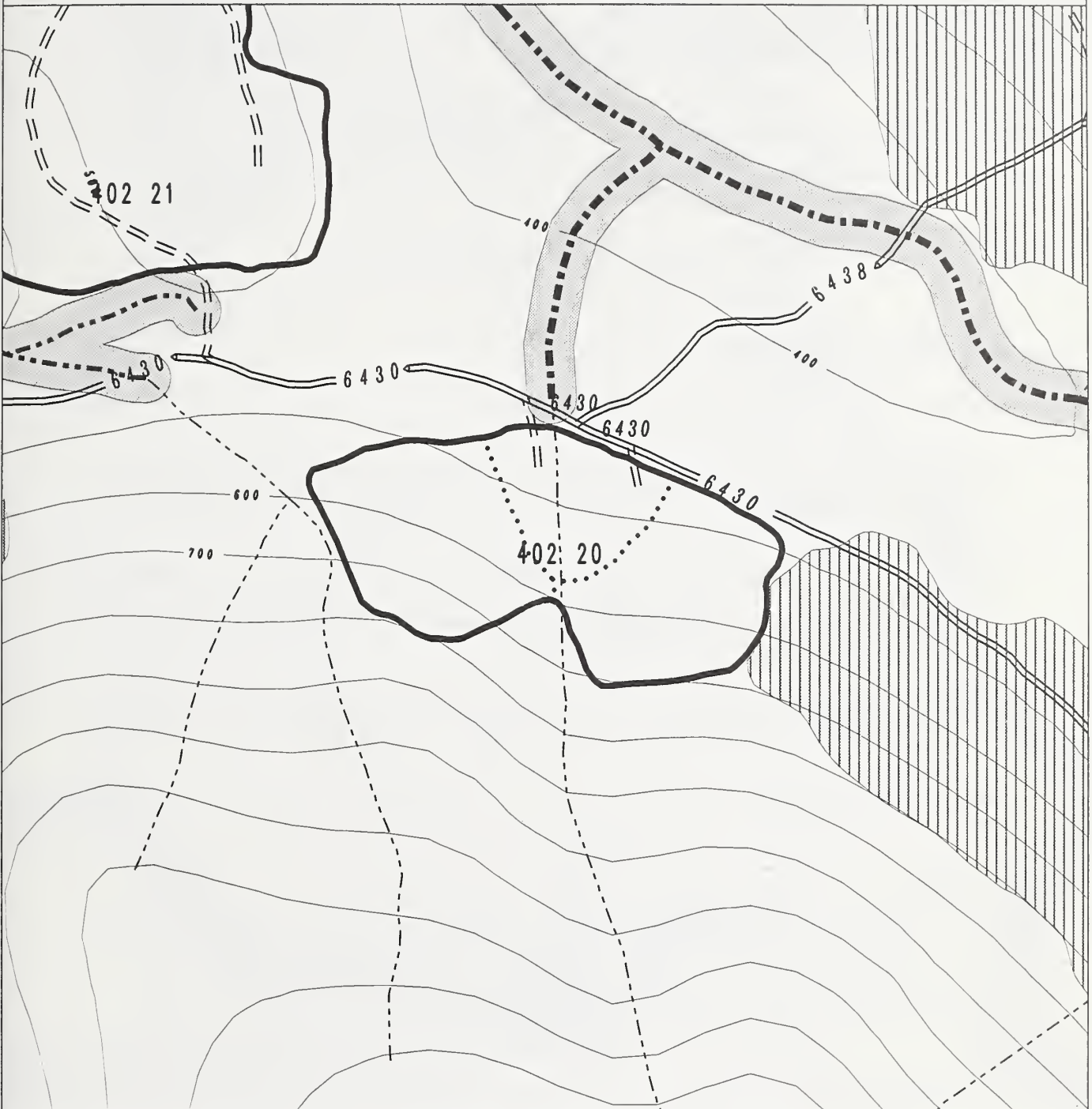
C. Unit Design

Shovel yarding is recommended in the central portion of unit.

Northwest boundary of unit located along muskeg to avoid windthrow from southeast winds.

UNIT MAP

402 - 20



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-21

Acres: 103 Alternative: 2,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 8, Photo# 97 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 1,933 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I and II streams adjacent to unit - maintain riparian buffers.
Class III streams within and adjacent to unit - maintain stream channel stability.
Wildlife travel corridor - maintain corridor.
Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream within unit will be protected under contract provision B6.5c (BMP 13.16 E5, E9).

Maintain buffer of at least 100 feet between unit and Class I and II streams adjacent to unit (BMP 12.6).

3. Wildlife Habitat:

Class I stream buffer to the northeast of unit will provide a wildlife corridor.

B. Transportation System:

Access into unit will be by temporary spur road off of Rd. 6430.

C. Unit Design:

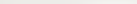
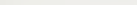
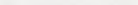
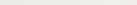


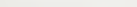







Northeast boundary along Class I stream buffer is parallel to southeast winds to provide windfirmness. Northwest boundary is located along scrub muskeg to avoid windthrow (BMP 13.2).

Yarding distance from the northern landing is limited by a convex slope. As a result, the Class I stream buffer has been extended to this slope break.

UNIT MAP

402 - 21



	UNIT BOUNDARY	100 Ft Contour Interval					
	SETTING BOUNDARY	0	330	660	990	1320 Feet	 SALTWATER
	EXISTING SPECIFIED ROAD					 100' TTRA BUFFER	
	PROPOSED SPECIFIED ROAD	1 Inch = 660 Feet				 LAKES	
	PROPOSED TEMPORARY ROAD					 STREAM - CLASS I	
	HARVESTED UNIT	F	FULL SUSPENSION YARDING			 STREAM - CLASS II	
	UNIT HARVESTED BEFORE TTRA	P	PARTIAL SUSPENSION YARDING			 STREAM - CLASS III	



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-23

Acres: 9 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 64 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 13 MBF/Acre Total Net Unit Volume: 117 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit located in deer winter range - maintain wildlife corridors.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Wildlife Habitat:

Small unit size will minimize impacts on deer winter range. Maintain 500-foot buffers between units 23, 24 and 25 as travel route between salt water from alpine areas in this winter deer range.

B. Transportation System

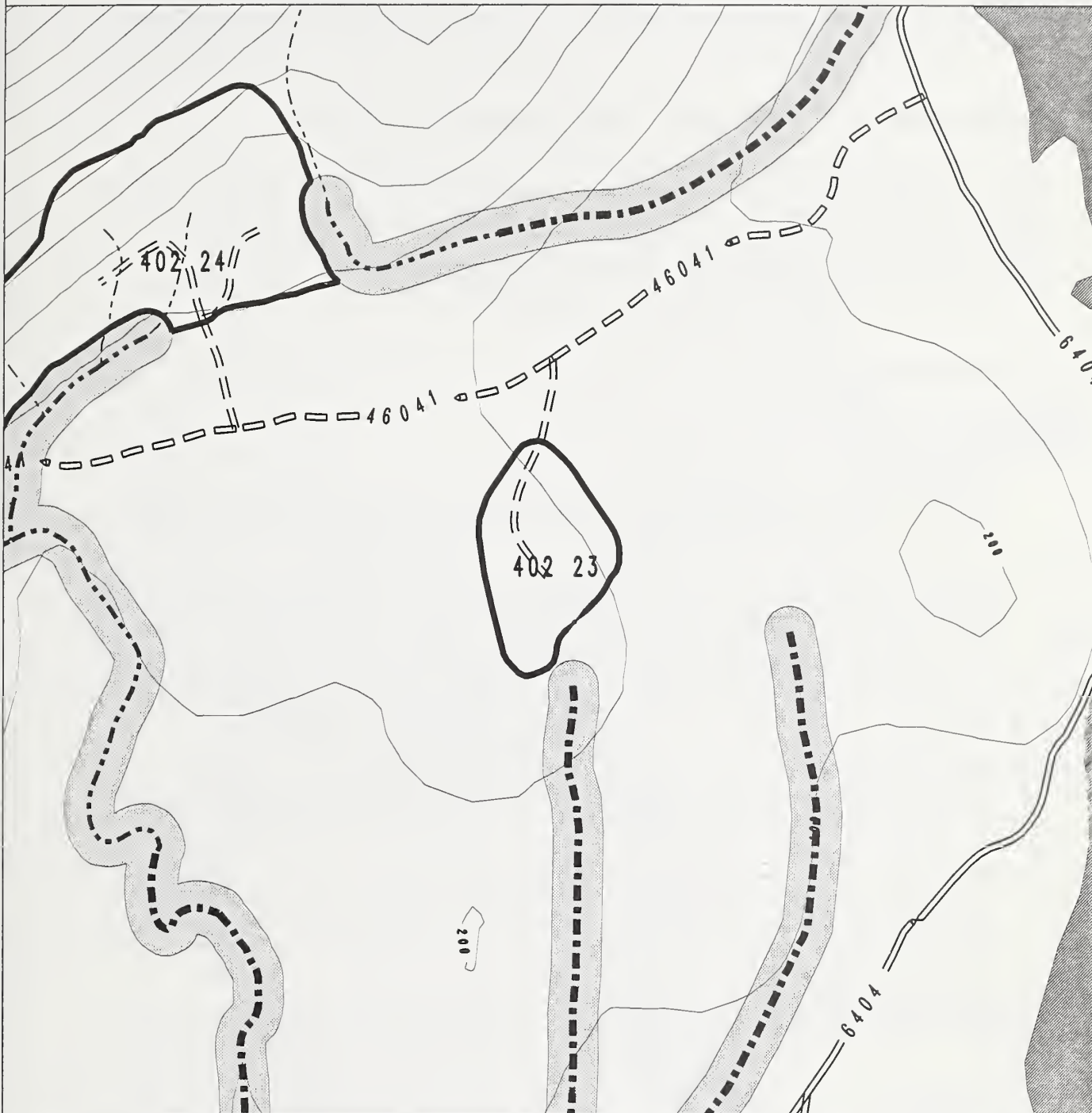
Unit is accessed by a temporary spur off of new specified road 46041.

C. Unit Design

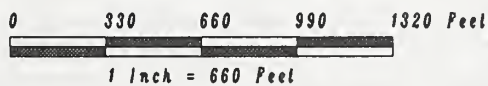
Unit is surrounded by muskegs providing windfirm boundaries.
Unit recommended for shovel yarding.

UNIT MAP

402 - 23



100 Ft Contour Interval



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-24

Acres: 51 Alternative: 2,3,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 4, Photo# 43 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1,104 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is seen from Rowan Bay - meet VQO of Modification.
Unit is located in deer winter range - maintain wildlife corridors.
Six Class III streams in unit and another on the eastern boundary - maintain stream channel stability.
Class II streams on southeast boundary - maintain riparian buffers.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. Aquatic Habitat:
Maintain buffer of at least 100-foot on Class II streams (BMP 12.6).
Six Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.
Class III stream furthest east in the unit will be protected under contract provision B6.5c (BMP 13.16 E5, E9). Partial suspension is planned.
3. Wildlife Habitat:
Maintain 500-foot buffer between units 23, 24 and 25 as travel route between salt water from alpine areas in this winter deer range.
4. Visuals:
Unit is within the Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.

B. Transportation System

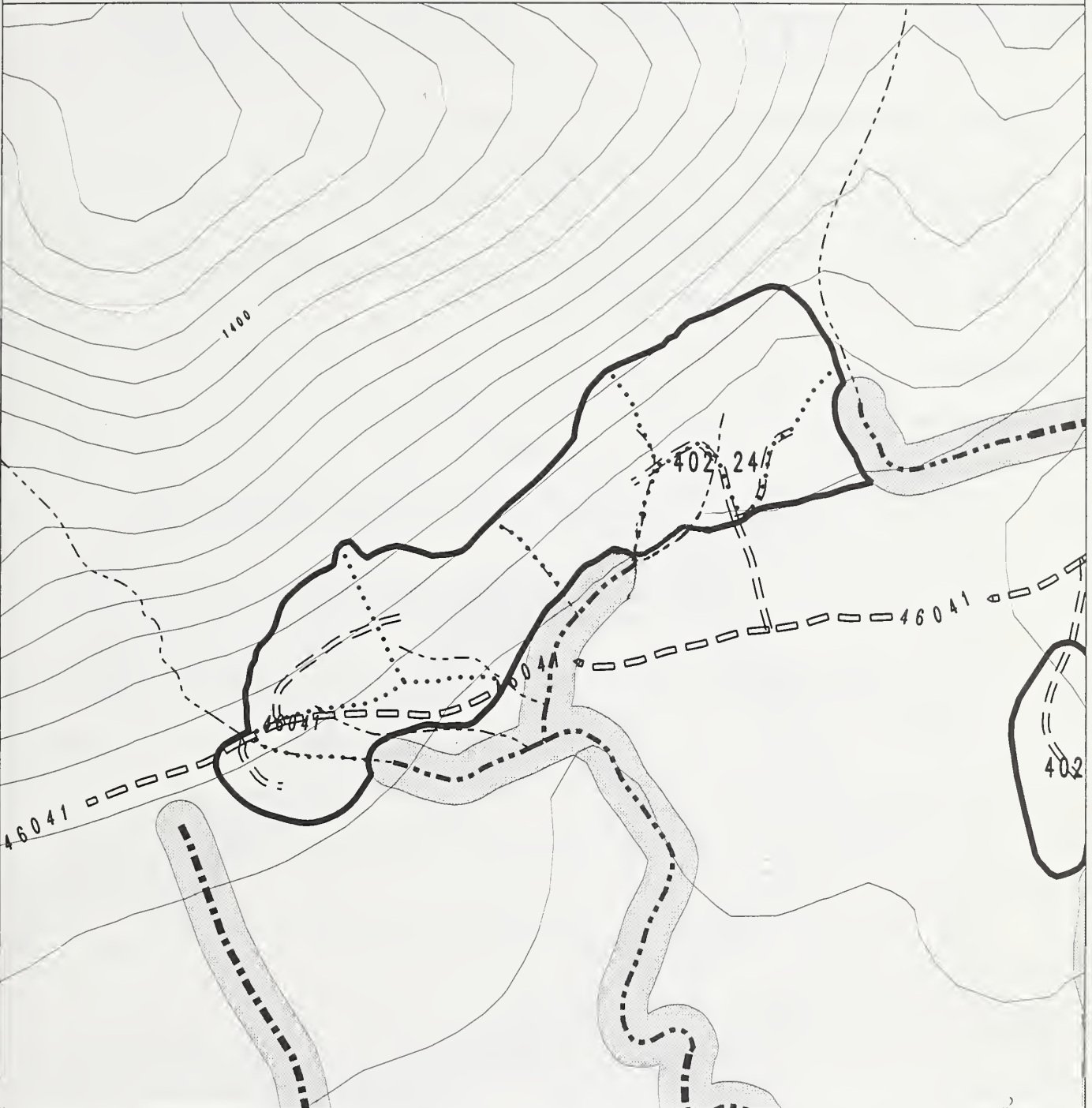
Specified road 46041 runs through unit. Several short temporary spurs are planned.

C. Unit Design:

The backline is intentionally irregular and undulating to reduce impact on the visual resource.
South side of the Class II buffer is undisturbed so should retain natural windfirmness in the direction of the predominant winds. Buffer is parallel to southwest winds that may develop parallel to the hillside. The buffer along the Class II to the south was designed to be greater than 100' to provide windfirmness.

UNIT MAP

402 - 24



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-25

Acres: 29 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 4, Photo# 43 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 638 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is seen from Rowan Bay - meet VQO of Modification.
Four Class III streams within unit and two more along the unit boundaries - maintain stream channel stability.
Class I streams along the southwest corner - maintain riparian buffers.
Unit is located in deer winter range - maintain wildlife corridors.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

The two Class III streams located in middle of unit will be protected under contract provision B6.5c (BMP 13.16 E5, E9). Partial suspension is planned.

The two remaining Class III streams within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

Maintain 100-foot buffer on Class I streams (BMP 12.6).

3. Wildlife Habitat:

Maintain 500-foot buffer between units 23, 24 and 25 as travel route between salt water from alpine areas in this winter deer range.

4. Visuals:

Unit is within the Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.

B. Transportation System:

Specified road 46041 runs along bottom of unit.

C. Unit Design:

South side of the Class I buffer is undisturbed, so should retain natural windfirmness. There is some risk from east winds.

The backline is intentionally irregular and undulating, so as not to appear blocky and harsh on the landscape.

UNIT MAP

402 - 25



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

0 330 660 990 1320 Feet
1 inch = 660 Feet

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-26

Acres: 26 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 3A, Photo# 7 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 572 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is seen from Rowan Bay - meet VQ0 of Modification.
Unit is located in deer winter range - maintain wildlife habitat.
Class III stream in unit - maintain stream channel stability.
South winds predominate - maintain windfirmness.
Moderately unstable soils in upper portion of unit - maintain soil stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Intermittent Class III stream in unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

3. Wildlife Habitat:

Unit has been kept small and cover maintained between adjacent cutting units to be compatible with deer winter range.

4. Visuals:

Unit is within the Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.

B. Transportation System:

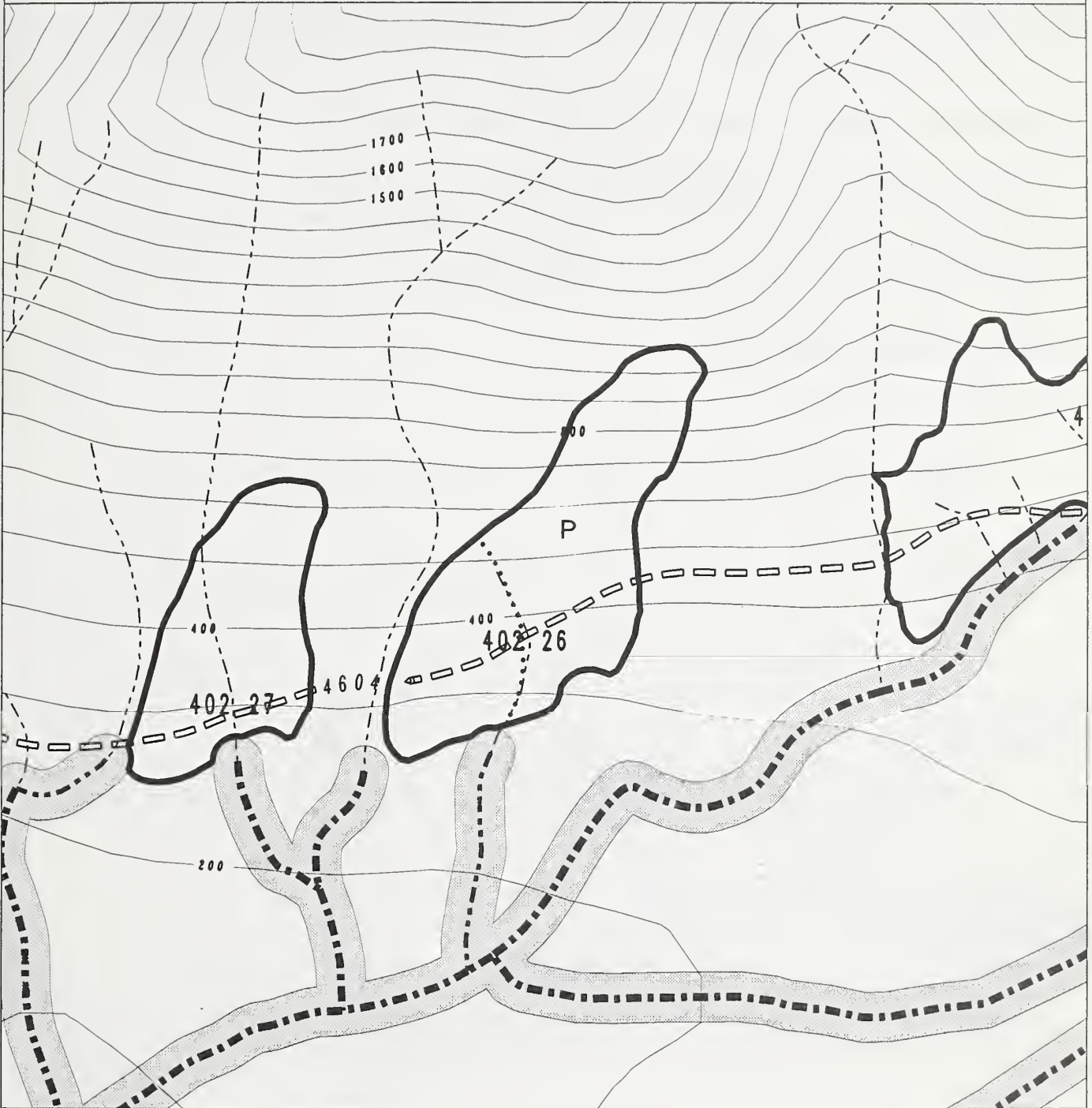
Specified road 46041 runs along bottom of unit.

C. Unit Design:

Partial suspension required, unit designed for running skyline.
Eastern edge is directly adjacent to the slide. Unit has been shaped to be compatible with the form and line of this landslide. Maintain boundary as shown on map and photo overlay to ensure meeting Modification VQ0.
Southwestern boundary is defined by an additional Class III stream.
Eastern boundary is located along a natural opening to avoid windthrow.

UNIT MAP

402 - 26



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-27

Acres: 16 Alternative: 2,3,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 3A, Photo# 7 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 352 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit in deer winter range - protect habitat.
Unit is visible from Rowan Bay - meet VQO of Modification.
Two Class III streams in and around unit - maintain stream channel stability.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. Aquatic Habitat:
Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned on the stream within the unit.
3. Wildlife Habitat:
Unit sized to minimize impact on deer winter range.
4. Visuals:
Unit is within the Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.

B. Transportation System:

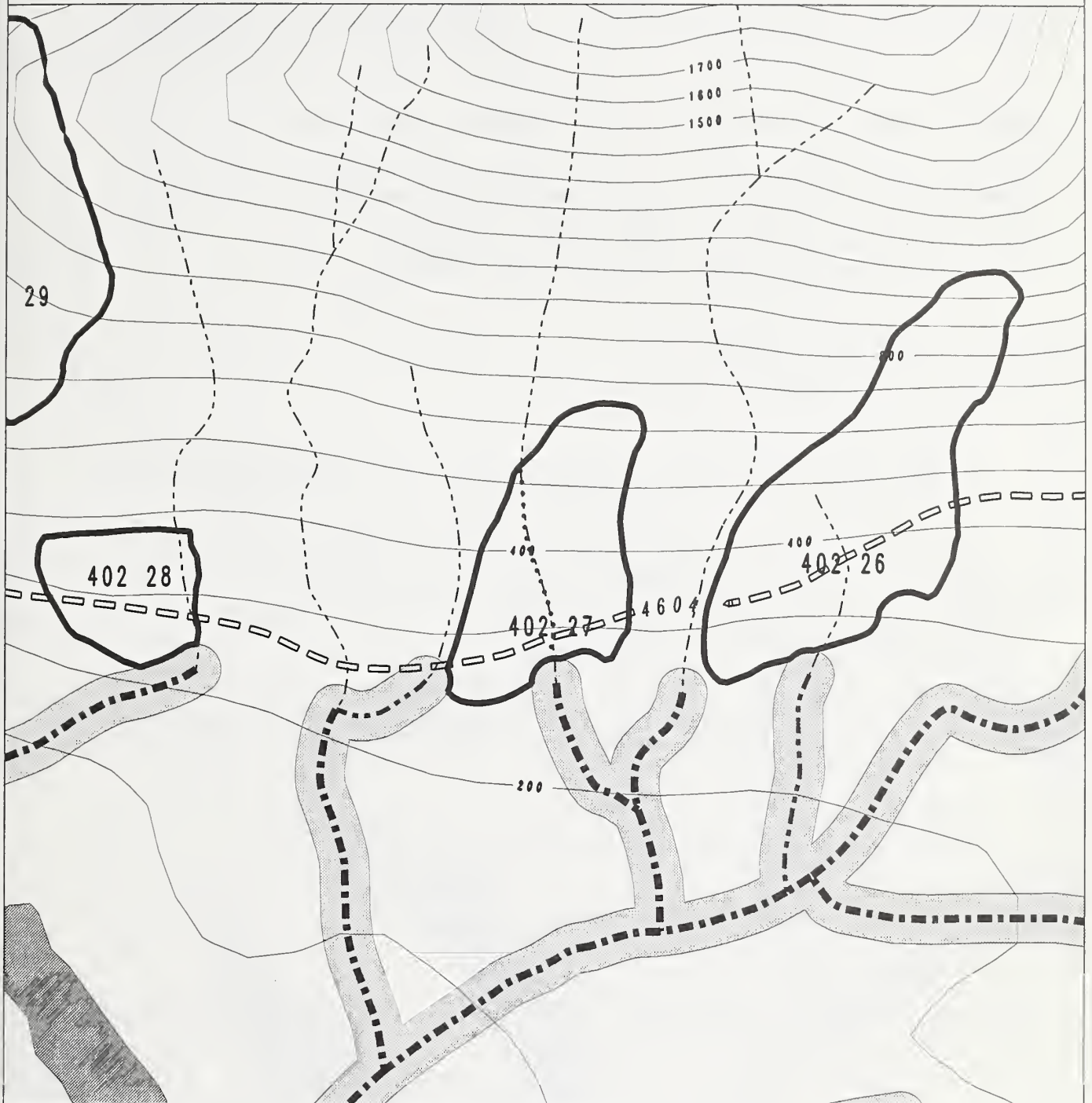
Specified road 46041 runs along the bottom of unit.

C. Unit Design:

Windthrow has occurred in the past from southeast winds; unit has been oriented parallel to the wind.
Unit is designed to work with planned, adjacent openings using features found in the landscape with the intent to meet the visual objective.

UNIT MAP

402 - 27



100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- UNIT BOUNDARY**
- SETTING BOUNDARY**
- EXISTING SPECIFIED ROAD**
- PROPOSED SPECIFIED ROAD**
- PROPOSED TEMPORARY ROAD**
- HARVESTED UNIT**
- UNIT HARVESTED BEFORE TTRA**

- F FULL SUSPENSION YARDOING**
- P PARTIAL SUSPENSION YARDOING**

- SALTWATER**
- 100' TTRA BUFFER**
- LAKES**
- STREAM - CLASS I**
- STREAM - CLASS II**
- STREAM - CLASS III**



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-28

Acres: 8 Alternative: 2,3,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 3A, Photo# 8 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 176 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I stream adjacent to unit - maintain riparian buffer.
Class III stream adjacent to unit - maintain stream channel stability.
Unit is seen from Rowan Bay - meet VQO of Modification.
Estuary habitat southwest of unit - maintain habitat.
Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. **Vegetation:**
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. **Aquatic Habitat:**
Maintain buffer of 100-feet from Class I stream (BMP 12.6). Buffer will also provide a wildlife corridor.
Class III stream adjacent to unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).
3. **Visuals:**
Unit is within the Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.
4. **Wildlife Habitat:**
Protect estuary habitat with a 1,000-foot buffer.

B. Transportation System:

Specified road 46041 runs along the bottom of unit.

C. Unit Design:

Use Class III stream on east side as boundary.
Past windthrow has occurred from southeast winds. Unit has been oriented parallel to these winds.

UNIT MAP

402 - 28



	UNIT BOUNDARY	100 Ft Contour Interval			SALTWATER
	SETTING BOUNDARY	0 330 660 990 1320 Feet			100' TTRA BUFFER
	EXISTING SPECIFIED ROAD	1 inch = 660 Feet			LAKES
	PROPOSED SPECIFIED ROAD				STREAM - CLASS I
	PROPOSED TEMPORARY ROAD				STREAM - CLASS II
	HARVESTED UNIT				STREAM - CLASS III
	UNIT HARVESTED BEFORE TTRA				
		F	FULL SUSPENSION YARDING		
		P	PARTIAL SUSPENSION YARDING		



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-29h

Acres: 23 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 3A, Photo# 8 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 506 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Access "difficult" component of the ASQ - develop techniques for managing this component.

Unit is seen from Rowan Bay - meet VQO of Modification.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Visuals:

Unit is within the Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.

B. Transportation System:

Planned helicopter unit will use landing on specified road 46041.

C. Unit Design:

Multi-entry plan for this hillside is to progressively harvest units into the wind.

Northwest boundary of unit located on leeward side of ridge to afford topographic protection from southeast winds.

Unit designed for helicopter yarding.

UNIT MAP

402 - 29



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet
1 inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-30

Acres: 31 Alternative: 2,3,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 3A, Photo# 8 USGS 1/4 QUAD MAP #: PTA C2 NE
Net Vol/Ac: 25 MBF/Acre Total Net Unit Volume: 761 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is seen from salt water - meet VQO of Modification.
Class I stream adjacent to unit - maintain riparian buffer.
Class III stream within unit - maintain stream channel stability.
Unit located near sandy beach - maintain beach fringe habitat and provide recreational access.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. Aquatic Habitat:
Maintain 100-foot buffer on Class I stream (BMP 12.6).
Class III stream in unit will be protected by contract provision B6.5b (BMP 13.16 E5, E9, E11).
3. Wildlife Habitat:
Maintain a 500-foot buffer along beach fringe for wildlife habitat and travel corridors.
4. Visuals:
Unit is within the Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.

B. Transportation System:

Specified road 46041 runs through the unit. One temporary spur is planned for the two northwest settings.

C. Unit Design:

Unit designed to work with landslide and landform features.
Timber along upper slope backline is expected to retain windfirmness naturally developed against winds perpendicular to slope.

UNIT MAP

402 - 30



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-31h

Acres: 9 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 3A, Photo# 7 USGS 1/4 QUAD MAP #: PTA C2 NE
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 198 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit visible from salt water - Maintain VQO of Partial Retention.
Class I stream on the southeast side of unit - maintain riparian buffer.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer on the Class I stream along the southeast boundary of the unit (BMP 12.6).

B. Transportation System:

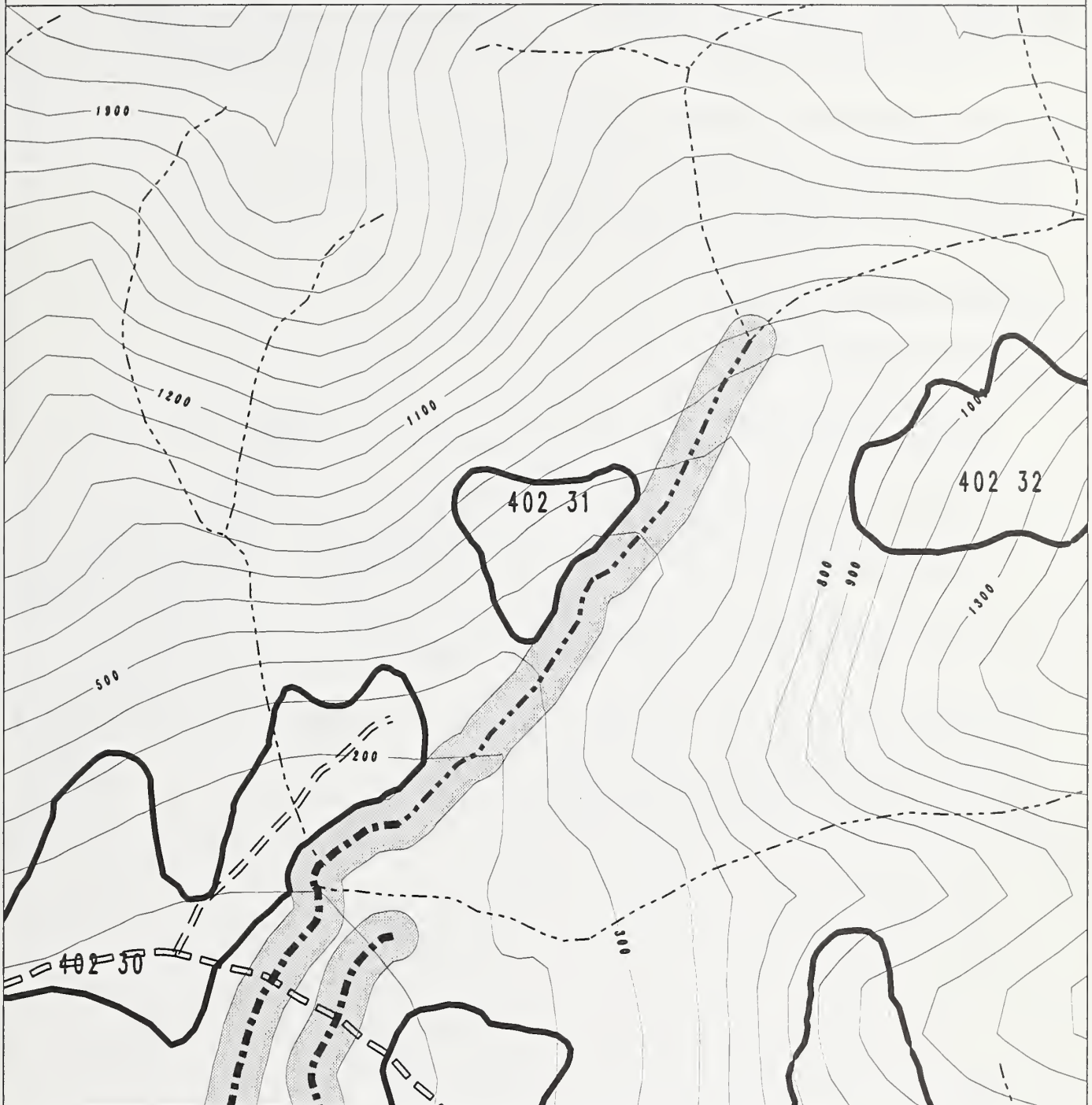
No new road construction is planned. Accessing this small unit by road would require approximately 400 feet of full bench and end haul construction. Helicopter yarding is more economical.

C. Unit Design:

Small size and location of unit meets the Partial Retention VQO.
Unit not at risk to windthrow due to location and small size.
Unit designed for helicopter yarding.

UNIT MAP

402 - 31



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-32h

Acres: 21 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 3A, Photo# 7 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 453 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit visible from salt water - meet VQO of Partial Retention.
Moderately unstable soils in entire unit - maintain soil stability.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Visuals:

Unit is within the Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.

B. Transportation System:

Unit is not accessible by road due to steep topography.

C. Unit Design:

The small size and irregular boundary helps the unit blend with patterns found in the characteristic landscape.

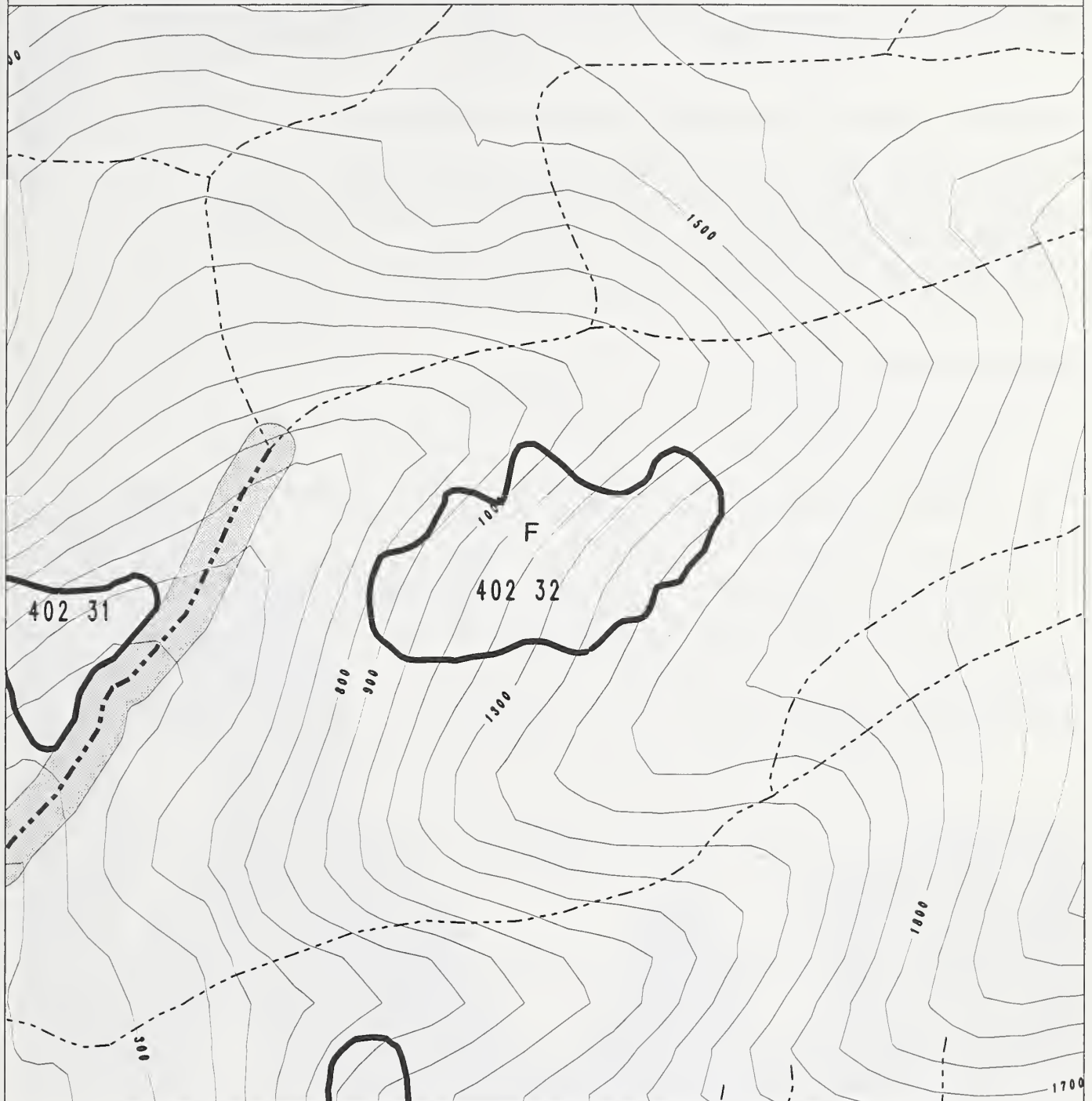
Full suspension required to protect unstable soils.

Unit is located on leeward side of ridge to protect it from winds.

Unit designed for helicopter yarding.

UNIT MAP

402 - 32



- UNIT BOUNDARY**
- SETTING BOUNDARY**
- EXISTING SPECIFIED ROAD**
- PROPOSED SPECIFIED ROAD**
- PROPOSED TEMPORARY ROAD**
- HARVESTED UNIT**
- UNIT HARVESTED BEFORE TTRA**

100 Ft Contour Interval



- F FULL SUSPENSION YARDING**
- P PARTIAL SUSPENSION YARDING**

- SALTWATER**
- 100' TTRA BUFFER**
- LAKES**
- STREAM - CLASS I**
- STREAM - CLASS II**
- STREAM - CLASS III**



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-34

Acres: 18 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 2, Photo# 152 USGS 1/4 QUAD MAP #: PTA C2 NE
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 396 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES and UNIT MANAGEMENT OBJECTIVES

Unit located near beach - maintain beach fringe habitat.
Class III stream within unit - provide stream channel stability.
Class III stream changes to Class I outside of the western boundary - maintain riparian buffer.
Unit is seen from saltwater - meet VQO of Modification.
Southerly winds predominate - provide windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. **Vegetation:**
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. **Aquatic Habitat:**
Maintain 100-foot buffer along Class I stream located adjacent to the northwest corner of unit (BMP 12.6).
Class III stream in unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).
3. **Wildlife Habitat:**
Maintain 500-foot buffer on beach fringe for wildlife travel corridor and habitat.
4. **Visuals:**
Unit is within the Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.

B. Transportation System:

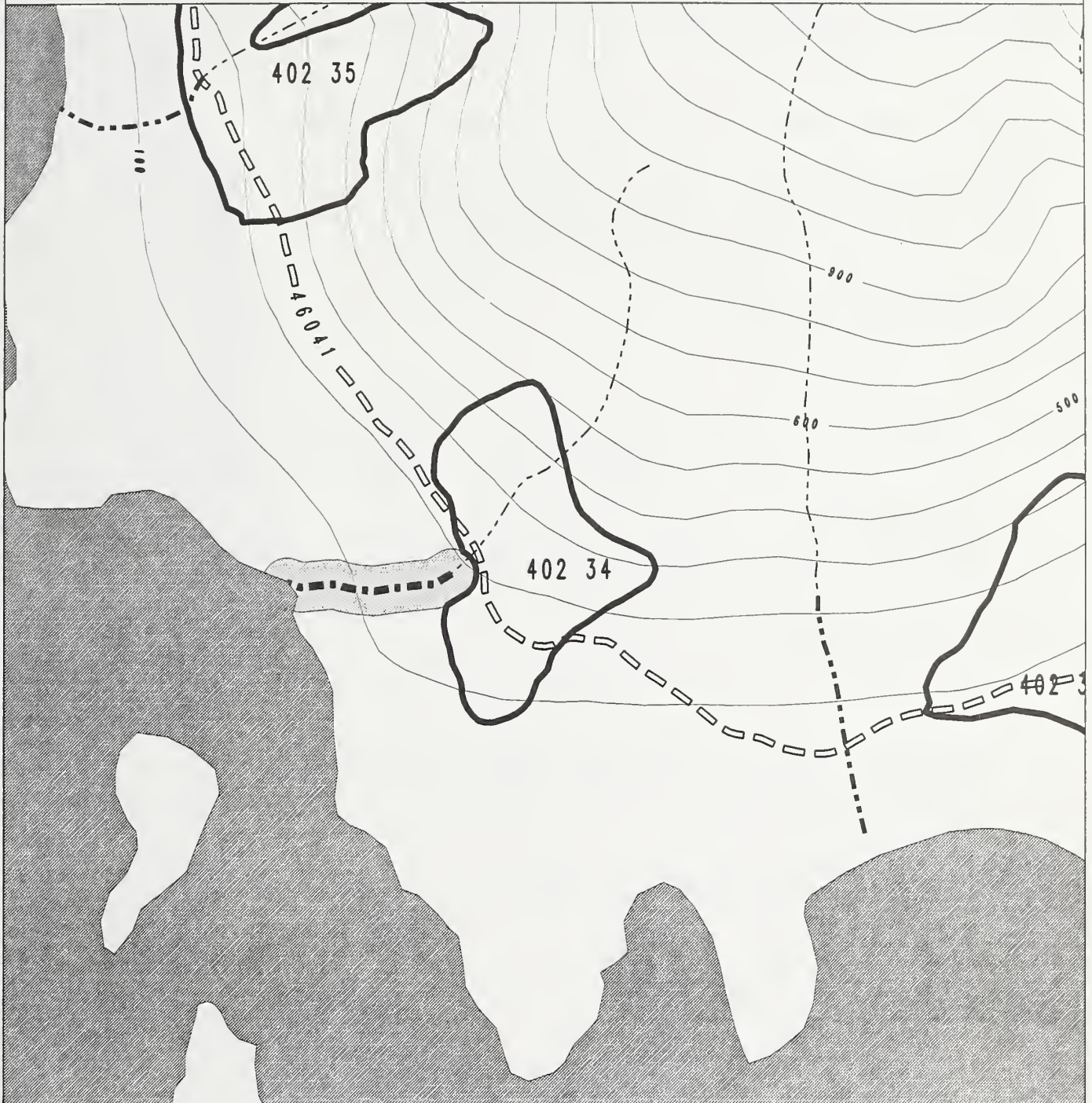
System road runs through the unit. No spurs are planned.

C. Unit Design:

Class III stream is the northern boundary of unit.
Highest risk of windthrow is along the northwestern boundary. Low ridge running northeast-southwest through unit will provide some topographic protection from the southeast winds.
Unit has been shaped and located to assure meeting the visual objective.

UNIT MAP

402 - 34



- | | | |
|--|--|--|
| 100 Ft Contour Interval | | |
| <ul style="list-style-type: none"> UNIT BOUNDARY SETTING BOUNDARY EXISTING SPECIFIED ROAD PROPOSED SPECIFIED ROAD PROPOSED TEMPORARY ROAD HARVESTED UNIT UNIT HARVESTED BEFORE TTRA | <p>0 330 660 990 1320 Feet</p> <p>1 Inch = 660 Feet</p> <p>F FULL SUSPENSION YARDING</p> <p>P PARTIAL SUSPENSION YARDING</p> | <ul style="list-style-type: none"> SALTWATER 100' TTRA BUFFER LAKES STREAM - CLASS I STREAM - CLASS II STREAM - CLASS III |



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-35

Acres: 27 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 2, Photo# 152 USGS 1/4 QUAD MAP #: PTA C2 NE
Net Vol/Ac: 23 MBF/Acre Total Net Unit Volume: 631 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit located near beach - maintain beach fringe habitat.
Class II and III stream within unit - maintain stream channel stability.
Unit is visible from salt water - meet VQO of Partial Retention.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. **Vegetation:**
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. **Aquatic Habitat:**
Designated Class II stream runs directly to saltwater, changes into Class III within unit. Stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.
3. **Wildlife Habitat:**
Maintain 500-foot beach fringe buffer for wildlife travel corridors and habitat.
4. **Visuals:**
Landscape is visible from Chatham Strait in the near to middleground distance. Landforms rise steeply from saltwater, with v-notches evident from the water.

B. Transportation System:

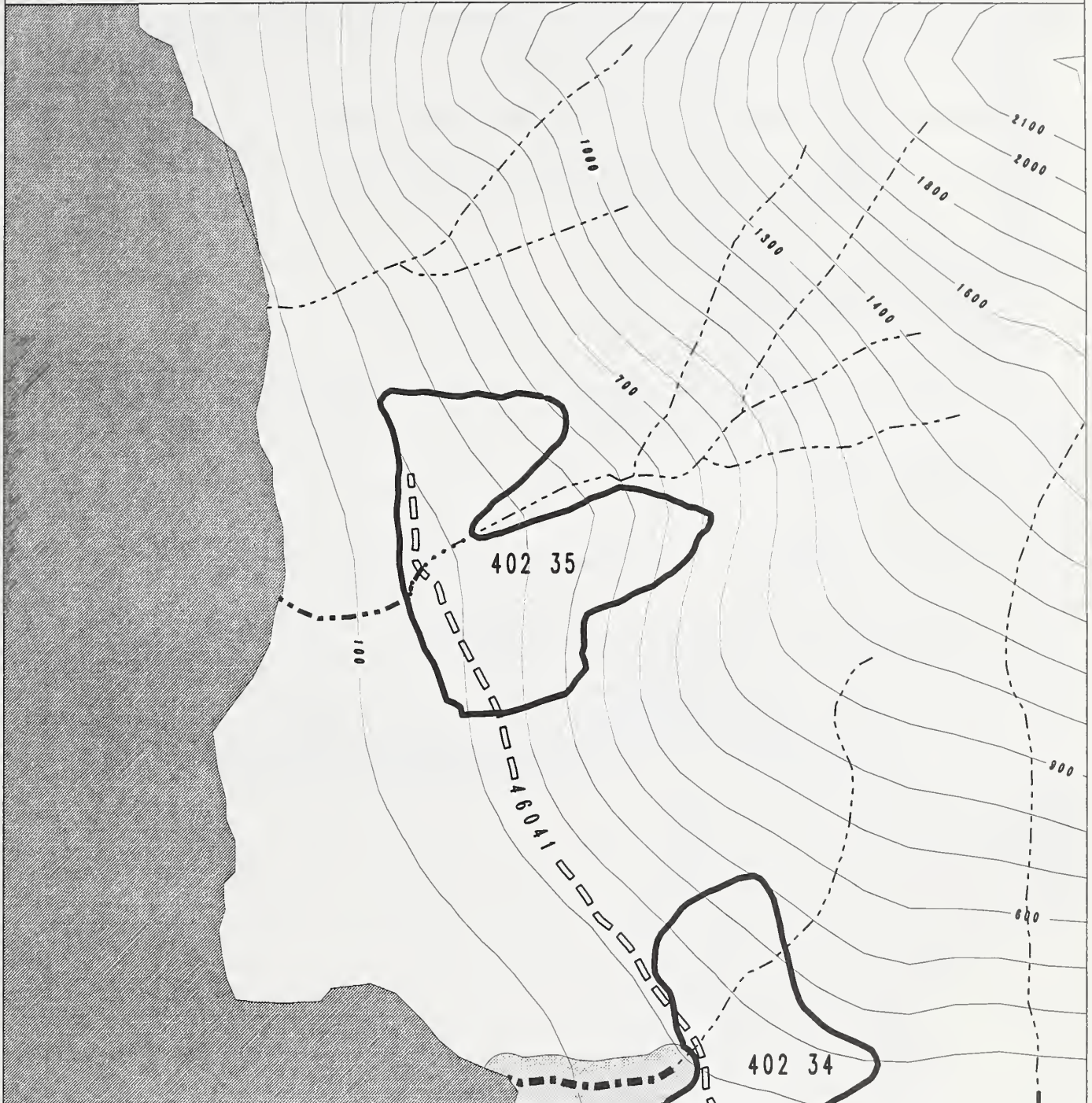
Specified road 46041 runs through the unit. No spurs are planned.

C. Unit Design:

North boundary has windthrow potential.
Unit shaped to mimic natural slide patterns found in the area and will be a dominant feature on this landscape.

UNIT MAP

402 - 35



100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-36

Acres: 41 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 67 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 902 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class II stream along southern boundary - maintain riparian buffer.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along the Class II stream (BMP 12.6).

B. Transportation System:

A spur road will access the unit from existing specified road 6405.

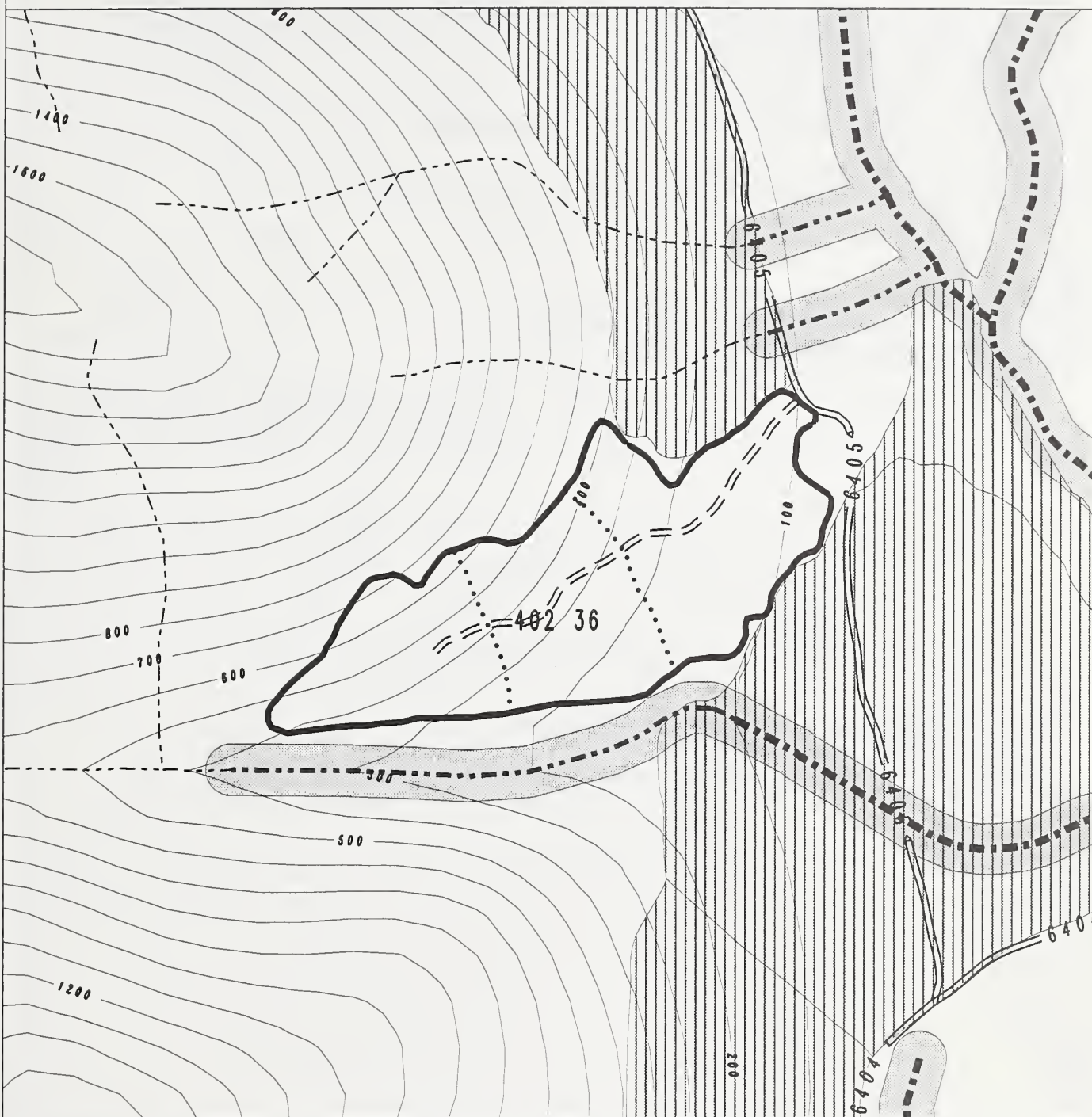
C. Unit Design:

Southern boundary along Class II stream buffer.

Unit is sheltered from southerly winds by the ridge located south of the unit.

UNIT MAP

402 - 36



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-37

Acres: 46 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 68 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 976 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES and UNIT MANAGEMENT OBJECTIVES

Class I stream north of unit - maintain riparian buffer.
Class III stream within unit - maintain stream channel stability.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along Class I stream north of unit (BMP 12.6).
Class III stream will be protected under contract provision B6.5c (BMP 13.16 E5, E9). Partial suspension is planned.

B. Transportation System:

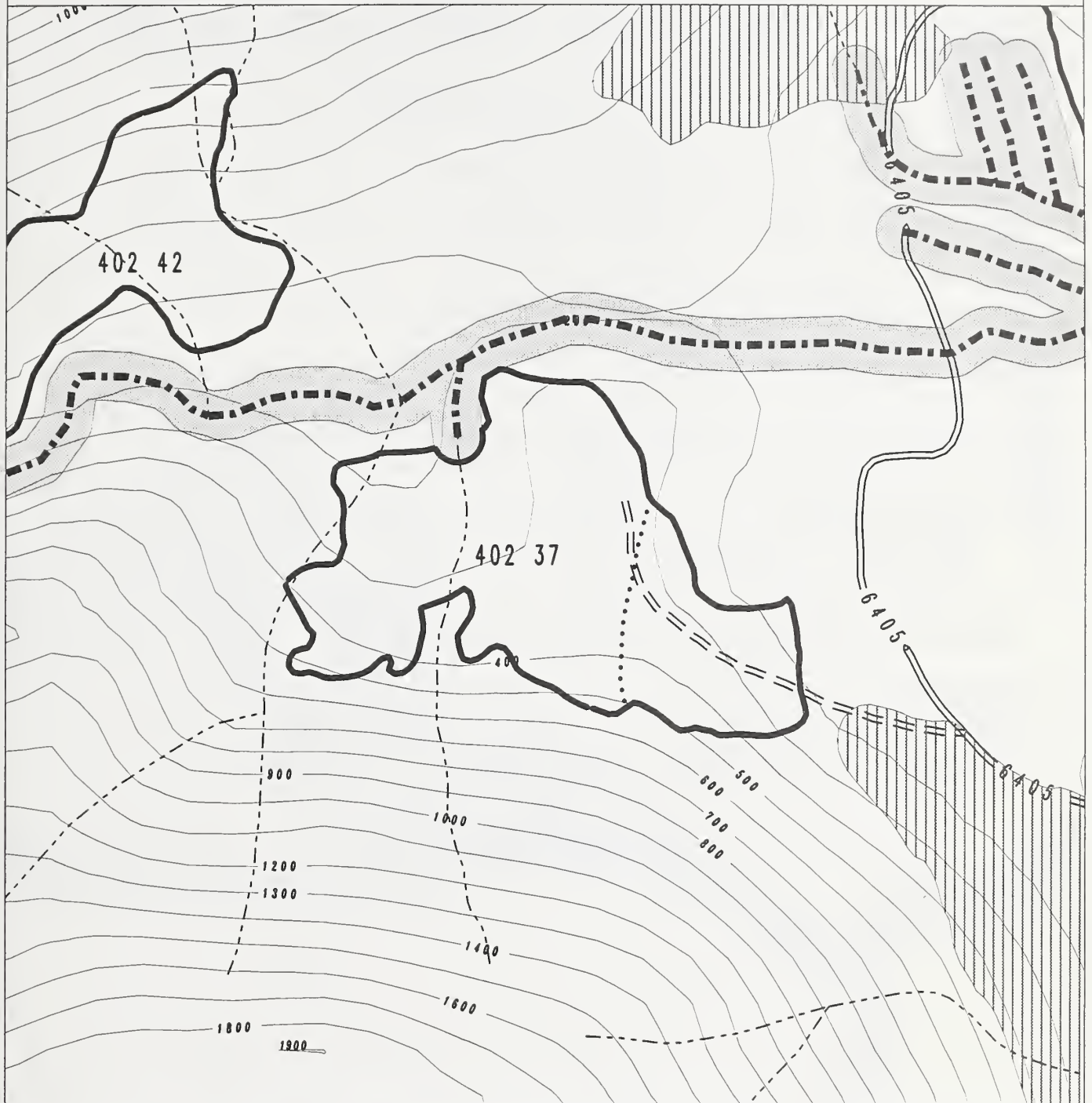
One spur road accesses unit off of existing specified road 6405.

C. Unit Design:

Northwestern boundary is controlled by the Class I stream buffer.
Unit is partially shielded by the ridge to the south of unit. Northern boundary is adjacent to scrub timber providing protection from windthrow.

UNIT MAP

402 - 37



	UNIT BOUNDARY	100 FT Contour Interval						
	SETTING BOUNDARY	0	330	660	990	1320 Feet		SALTWATER
	EXISTING SPECIFIED ROAD							100' TTRA BUFFER
		1 inch = 660 Feet						
	PROPOSED SPECIFIED ROAD							LAKES
	PROPOSED TEMPORARY ROAD							STREAM - CLASS I
	HARVESTED UNIT	F	FULL SUSPENSION YARDING					STREAM - CLASS II
	UNIT HARVESTED BEFORE TTRA	P	PARTIAL SUSPENSION YARDING					STREAM - CLASS III

NORTH AND EAST KUIU UNIT PLAN

UNIT 402-41

Acres: 50 Alternative: 2,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 5, Photo# 68 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1082 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES and UNIT MANAGEMENT OBJECTIVES

Area of braided Class I streams is located southwest of unit - maintain riparian buffers.

Unit is in an area of high windthrow potential (south winds predominate) - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along braided streams to the southwest of unit (BMP 12.6).

B. Transportation System:

Use existing specified road 6405, one spur road planned.

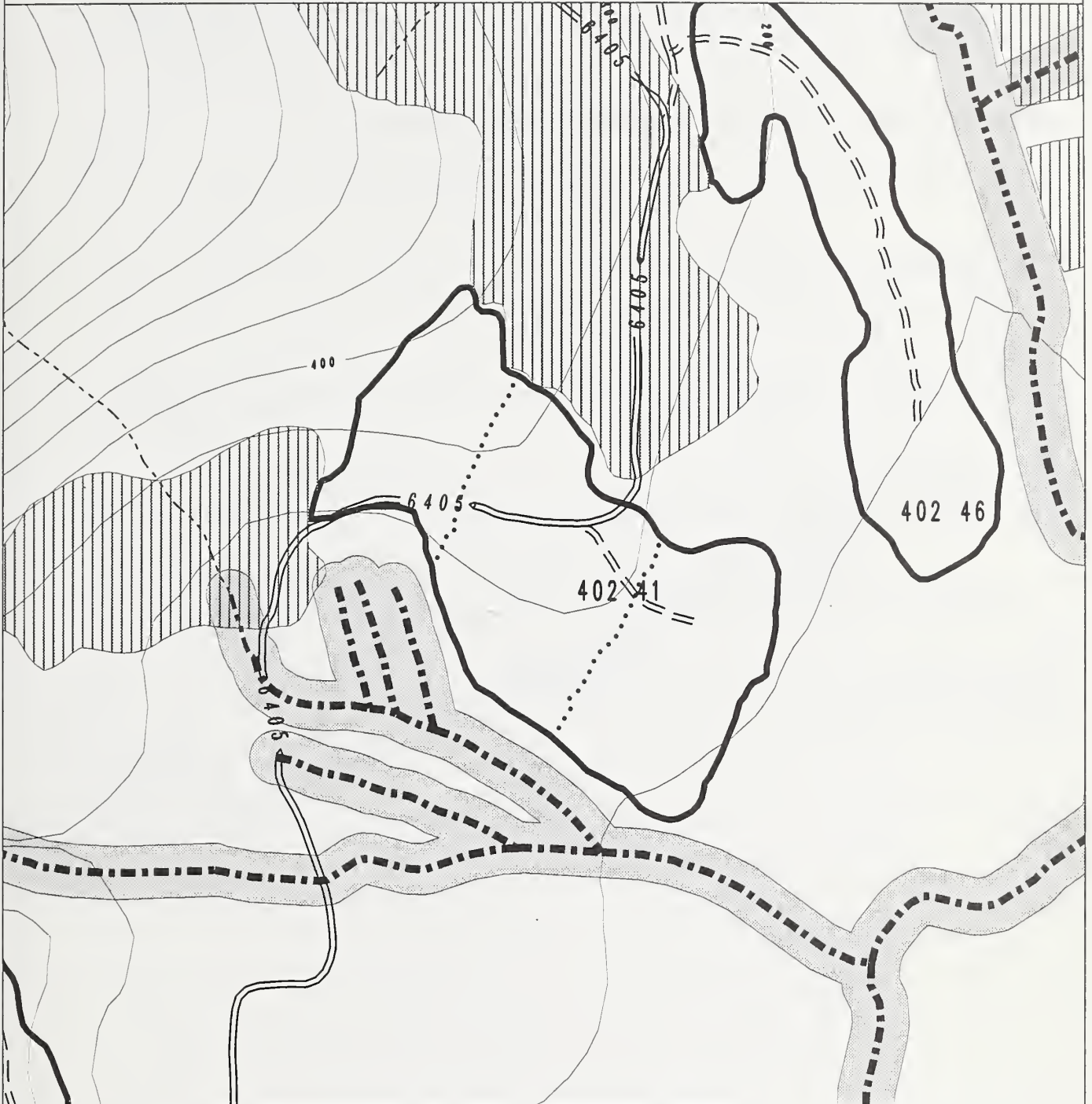
C. Unit Design:

North boundary is adjacent to an old harvest unit and an area of scrub timber to maintain windfirmness.

Unit boundary to southwest is adjacent to the Class I stream buffer.

UNIT MAP

402 - 41



100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-42h

Acres: 55 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 4, Photo# 38 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1,201 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES and UNIT MANAGEMENT OBJECTIVES

Class I stream adjacent to unit - maintain riparian buffer.

Class III streams within unit - maintain stream channel stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer on Class I stream (BMP 12.6).

Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

B. Transportation System:

No planned specified or spur roads. Locate landings on existing roads.

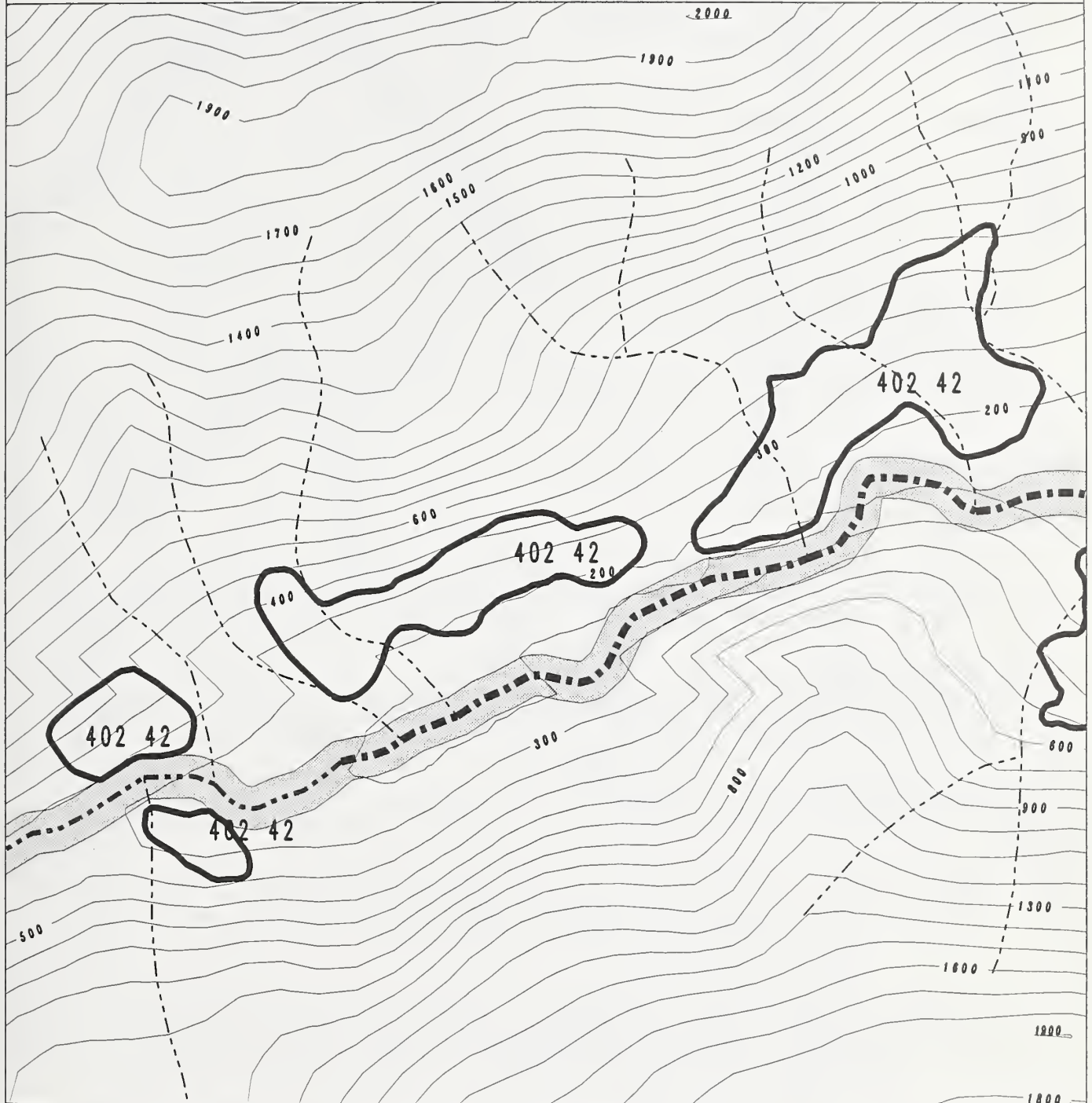
C. Unit Design:

Unit comprised of 4 small helicopter units.

Helicopter yarding is planned.

UNIT MAP

402 - 42



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-45

Acres: 39 Alternative: 2,3,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 6, Photo# 109 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 24 MBF/Acre Total Net Unit Volume: 952 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is seen from Rowan Bay - meet VQO of Modification.
Unit located in deer winter range - maintain wildlife travel corridors.
Class II stream on northern boundary - maintain riparian buffer.
Class III stream flows into a Class II stream flows into a Class I stream on the west side of unit - maintain riparian buffer on Class I and II portion and provide stream channel stability on the Class III portion on the southwest corner of unit.
Deeply incised Class III stream on southwest boundary of unit - provide stream channel stability.
Southern portion of unit contains existing windthrow - salvage windthrow.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers on Class I and Class II streams (BMP 12.6).
Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Wildlife Habitat:

Provide Class I and II stream buffers to facilitate wildlife travel.

4. Visuals:

Unit is within the inner Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.

B. Transportation System

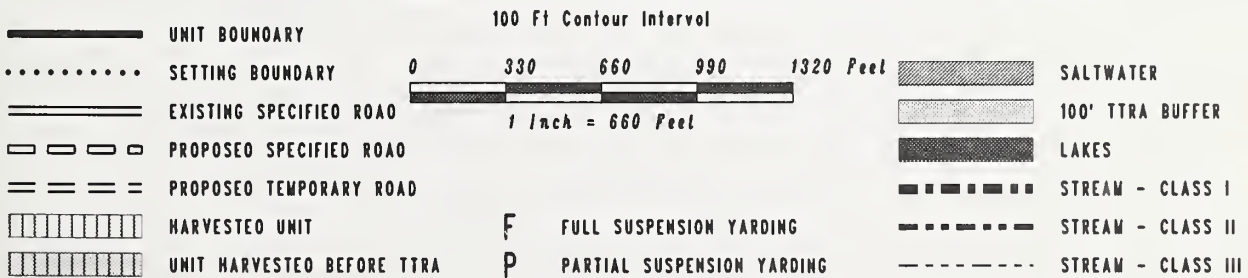
Specified road 46951 accesses southern landing. This road is located with future access in mind. The control point is a saddle at the SE corner of the unit. One spur road planned.

C. Unit Design

Unit designed to work with natural features to meet Modification VQO.
Buffers along the Class II streams are parallel to the storm winds and are intended to be greater than 100' to provide windfirmness.
Unit oriented parallel to prevailing winds.
Northern boundary is along the specified road.

UNIT MAP

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NORTH AND EAST KUIU UNIT PLAN

UNIT 402-46

Acres: 31 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 68 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 547 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I stream (Rowan Creek) located east of unit - maintain riparian buffer.

Class II stream north of unit - maintain riparian buffer.

South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer on the Class I and II streams. As planned, the buffers are 200-300 feet in width.

B. Transportation System

One spur road from the 6405 road is planned.

C. Unit Design

Buffer to north of unit is 200-300 feet in width to maintain a windfirm riparian buffer. Boundary is designed at an oblique angle to the prevailing storm winds.

The Class I stream buffer is located parallel to prevailing winds.

Unit parallel to prevailing wind direction to minimize windthrow.

Unit designed for shovel yarding.

UNIT MAP

402 - 46



100 Ft Contour Interval

UNIT BOUNDARY
SETTING BOUNDARY

0 330 660 990 1320 Feet

EXISTING SPECIFIED ROAD

1 Inch = 660 Feet

PROPOSED SPECIFIED ROAD

PROPOSED TEMPORARY ROAD

HARVESTED UNIT

F FULL SUSPENSION YARDING

UNIT HARVESTED BEFORE TTRA

P PARTIAL SUSPENSION YARDING

SALTWATER

100' TTRA BUFFER

LAKES

STREAM - CLASS I

STREAM - CLASS II

STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-47

Acres: 14 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 5, Photo# 68 USGS 1/4 QUAD MAP #: PTA C1 NW
Net Vol/Ac: 23 MBF/Acre Total Net Unit Volume: 323 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I stream (Rowan Creek) to the east of unit - maintain riparian buffer.

Class III stream within unit - maintain stream channel stability.

Class II stream southwest of unit - maintain riparian buffer.

South winds predominate - ensure windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand. clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers on Class I and II streams (BMP 12.6).

Class III stream in unit will be protected by contract provision B6.5c (BMP 13.16 E5, E9).

B. Transportation System:

One spur road off of the 6405 road is planned.

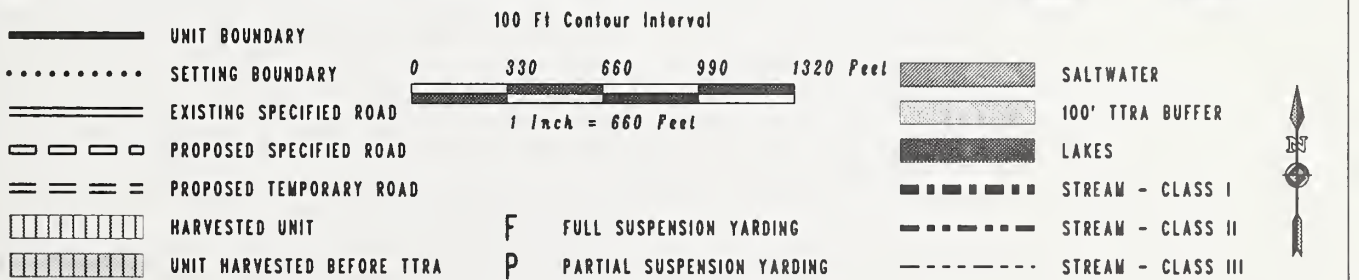
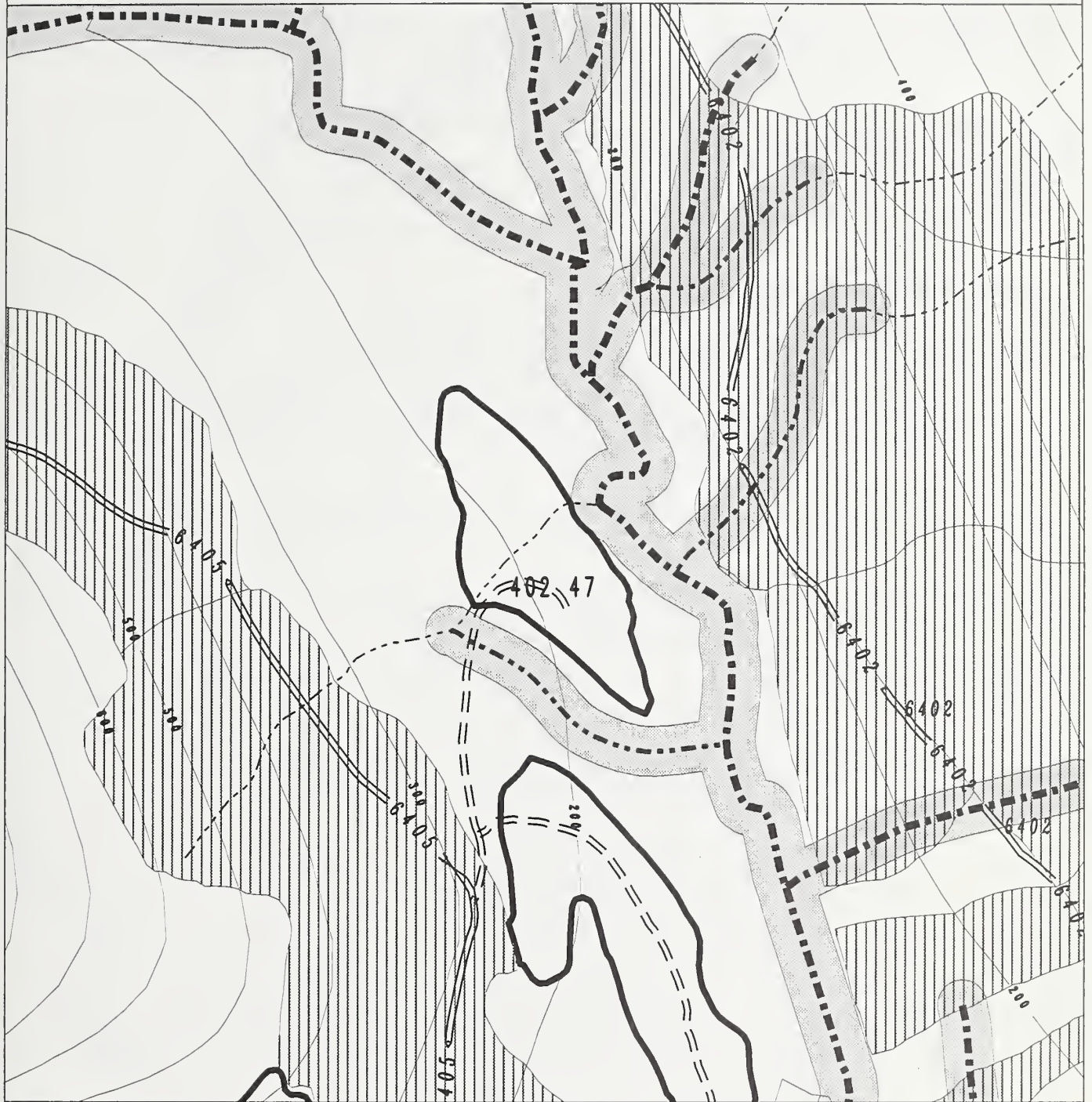
C. Unit Design:

Northern boundary adjacent to muskeg and scrub timber, providing windthrow protection.

Unit designed for shovel yarding.

An extended width buffer was planned along the Class I stream (Rowan Ck).

UNIT MAP 402 - 47



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-48

Acres: 29 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 8, Photo# 97 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 638 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

South winds predominate - provide windfirmness.
Class II stream north of unit - maintain riparian buffer.
Wildlife corridor - maintain corridor.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along Class II stream (BMP 12.6).

3. Wildlife Habitat:

Setting to the east of unit is maintained to provide a wildlife travel corridor from valley bottom to the ridge.

B. Transportation System:

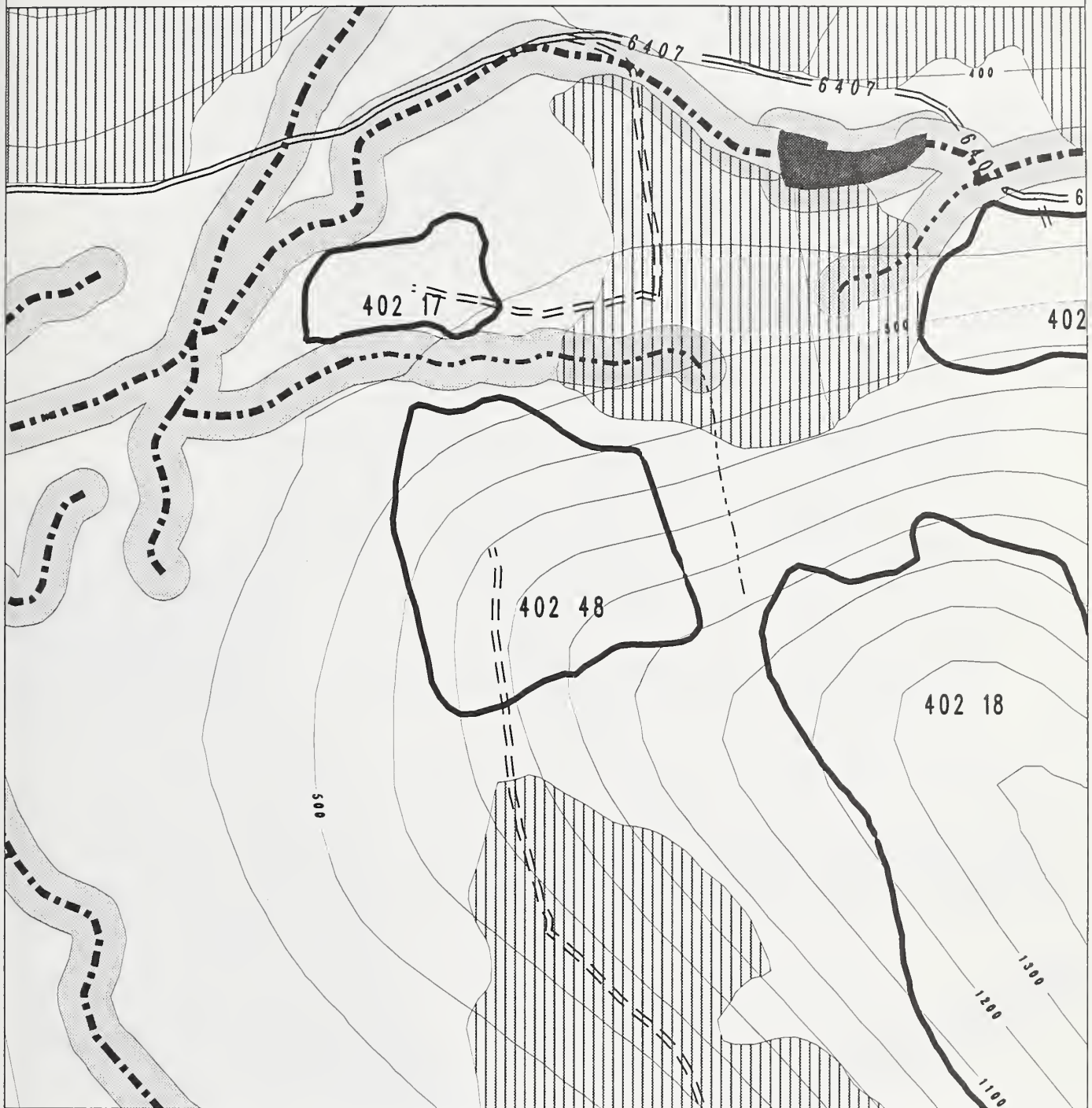
One spur is planned.

C. Unit Design:

Northern boundary is located at the bottom of the leeward slope to minimize the risk from windthrow.

UNIT MAP

402 - 48



100 Ft Contour Interval

UNIT BOUNDARY

SETTING BOUNDARY

EXISTING SPECIFIED ROAD

PROPOSED SPECIFIED ROAD

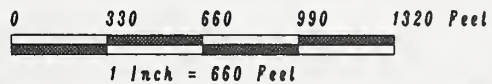
PROPOSED TEMPORARY ROAD

HARVESTED UNIT

UNIT HARVESTED BEFORE TTRA

F FULL SUSPENSION YARDING

P PARTIAL SUSPENSION YARDING



SALTWATER

100' TTRA BUFFER

LAKES

STREAM - CLASS I

STREAM - CLASS II

STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 402-49

Acres: 20 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 3A, Photo# 8 USGS 1/4 QUAD MAP #: PTA C2 NE
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 359 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit located near beach - maintain beach fringe habitat.
Estuary habitat south of unit - maintain wildlife habitat.
Unit is seen from saltwater - meet VQO of Modification.
Southerly winds predominate - provide windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Wildlife Habitat:

Maintain 500-foot buffer on beach fringe for wildlife travel corridor and habitat.
Provide 1,000-foot estuary buffer.

3. Visuals:

Unit is within the Rowan Peak viewshed and is part of a long range, multi-entry harvest scheme designed to work with natural features found in the landscape.

B. Transportation System:

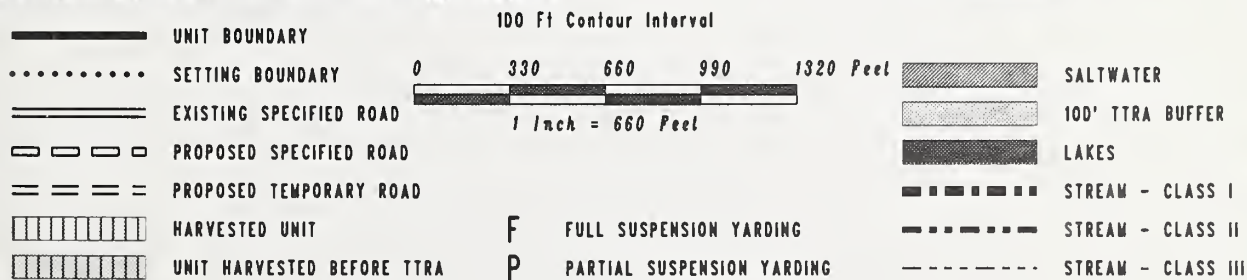
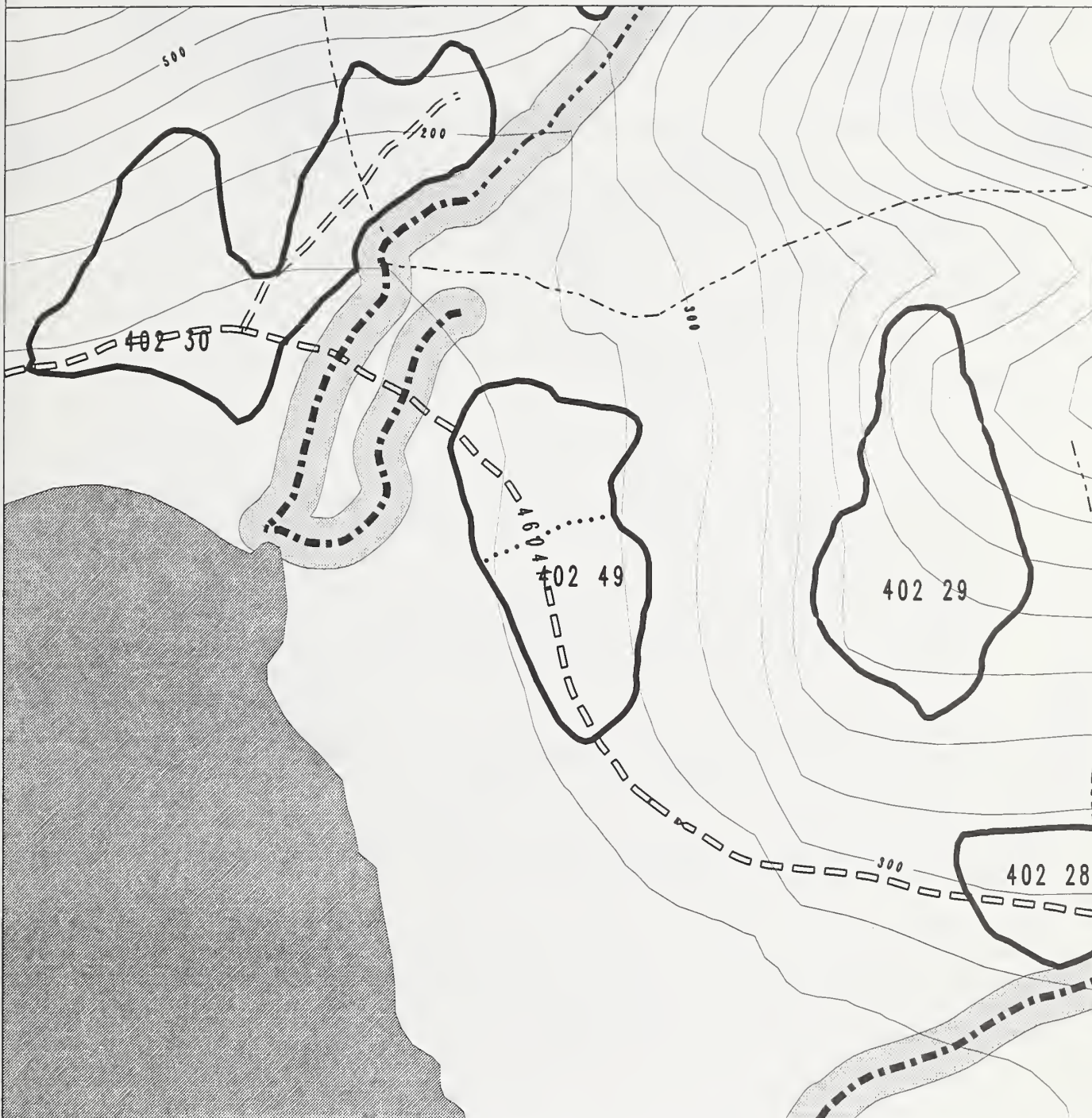
System road runs through the unit. No spurs are planned.

C. Unit Design:

Maintain irregular backline to meet visual objectives.
Northern boundary adjacent to landslide provides protection from windthrow.

UNIT MAP

402 - 49



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-1

Acres: 70 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 31 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 1,441 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit meets TTRA requirements.
Class II streams north and west of unit - maintain riparian buffers.
Two Class III streams - maintain stream channel stability.
Small inland lakes west of unit - maintain wildlife buffer and travel corridors.
Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain buffers of 100 feet between unit and Class II streams (BMP 12.6).

Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9).

3. Wildlife Habitat:

Maintain at least 200-foot wildlife corridor between west unit boundary and the two small lakes.

B. Transportation System

Unit will be accessed by specified roads 6457 and 6402. Additional temporary spur roads are planned.

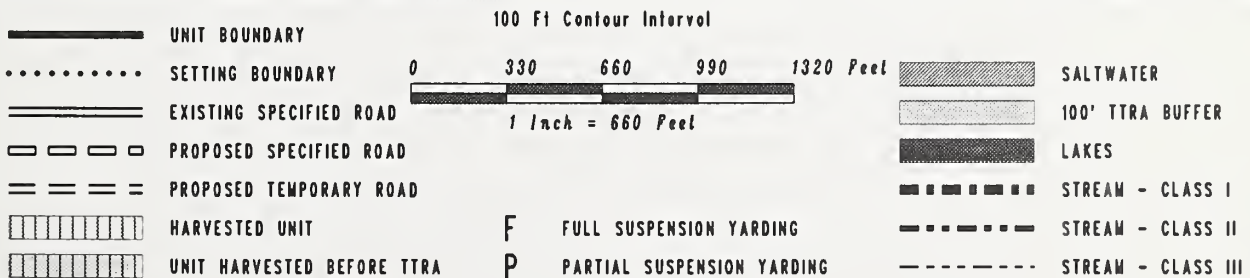
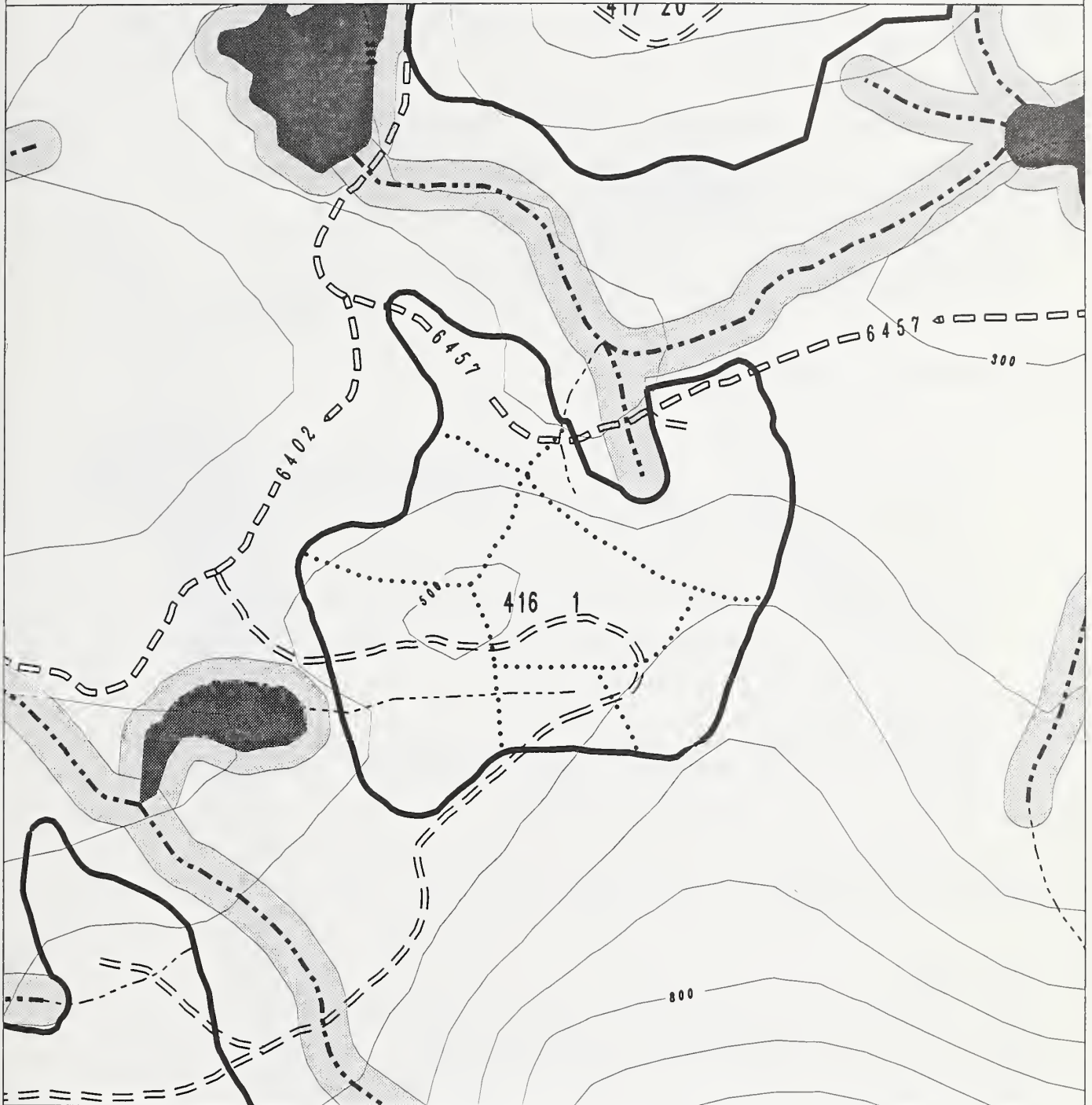
C. Unit Design

See Aquatic and Wildlife Habitat for boundary design.

Buffers are parallel to the prevailing winds and located on lee side of ridge to provide protection from windthrow. An extended width buffer was planned along the Class II to the north.

UNIT MAP

416 - 1



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-3

Acres: 58 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 31 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 31 MBF/Acre Total Net Unit Volume: 1,788 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II streams adjacent to unit - maintain riparian buffers.

Class III stream in unit - maintain stream channel stability.

Lake west of unit - maintain wildlife corridor.

Moderately unstable soils east of unit - maintain soil stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain buffer of 100 feet between unit and Class II streams (BMP 12.6).

One Class III stream within unit will be protected under contract provision B6.5c (BMP 13.16 E5, E9, E11).

3. Wildlife Habitat:

Maintain windfirm 200-foot buffer as the boundary along the western edge of the unit to provide a wildlife corridor around the lake (BMP 12.6).

B. Transportation System

Unit will be accessed by two temporary spur roads.

C. Unit Design

See Aquatic and Wildlife Habitat.

East boundary of unit avoids area of unstable soils on the steep slope.

Windthrow is not a concern due to location of unit.

An extended width buffer was planned along the Class II to the east due to unstable soils.

UNIT MAP

416 - 3



	UNIT BOUNDARY	100 Ft Contour Interval		SALTWATER
	SETTING BOUNDARY	0 330 660 990 1320 Feet		100' TTRA BUFFER
	EXISTING SPECIFIED ROAD	1 Inch = 660 Feet		LAKES
	PROPOSED SPECIFIED ROAD			STREAM - CLASS I
	PROPOSED TEMPORARY ROAD			STREAM - CLASS II
	HARVESTED UNIT	F FULL SUSPENSION YARDOING		STREAM - CLASS III
	UNIT HARVESTED BEFORE TTRA	P PARTIAL SUSPENSION YARDOING		



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-4

Acres: 37 Alternative: 4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 30 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 31 MBF/Acre Total Net Unit Volume: 1,155 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II stream west of unit - maintain riparian buffer.

Four Class III streams in unit - maintain stream channel stability.

Wildlife use riparian area west of unit - maintain travel corridor.

Southeast winds prevail - maintain windfirm boundaries.

Area of alluvial soils in southern portion of unit - maintain soil stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain buffer of at least 100 feet between unit and Class II stream to the west (BMP 12.6).

Northernmost Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

Remaining Class III streams will be protected under contract provision B6.5c (BMP 13.16 E5, E9).

3. Wildlife Habitat:

Class II stream buffer will provide wildlife travel corridor.

B. Transportation System

Specified road 6402 will access the unit. Three temporary spur roads are planned.

C. Unit Design

Western unit boundary parallels wind direction for increased windfirmness. Partial suspension required in area of alluvial soils.

UNIT MAP

416 - 4



	UNIT BOUNDARY	100 Ft Contour Interval		SALTWATER
	SETTING BOUNDARY	0 330 660 990 1320 Feet		100' TTRA BUFFER
	EXISTING SPECIFIED ROAD	1 Inch = 660 Feet		LAKES
	PROPOSED SPECIFIED ROAD			STREAM - CLASS I
	PROPOSED TEMPORARY ROAD			STREAM - CLASS II
	HARVESTED UNIT	F FULL SUSPENSION YARDING		STREAM - CLASS III
	UNIT HARVESTED BEFORE TTRA	P PARTIAL SUSPENSION YARDING		



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-5

Acres: 51 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 30 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 27 MBF/Acre Total Net Unit Volume: 1,355 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

One Class III stream in unit - maintain stream channel stability.

Lake northeast of unit - maintain riparian travel corridor.

Southeast winds prevail - maintain windfirm boundaries.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Full suspension required.

3. Wildlife Habitat:

Maintain a 200-foot buffer between unit and lake to protect wildlife travel corridor.

B. Transportation System

Unit will be accessed by two temporary spur roads from planned specified road 6491.

C. Unit Design

East boundary is parallel to wind direction. Northwest boundary borders scrub for increased windfirmness.

UNIT MAP

416 - 5



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-6

Acres: 95 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 174 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 2,104 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

This unit is proposed to be part of a research project with the Forest Sciences Lab - various silvicultural treatments will be applied to test effects on slope stability, hydrology, and vegetation management.

Vegetative treatments can also be used to test the ability to meet visual and wildlife objectives.

Study windfirmness - understand variables affecting windthrow.

The unit is visible from the head of Alvin Bay at a skewed, indirect angle - meet the inventoried VQO of modification.

Class III streams within the unit - maintain stream channel stability.

Soil is shallow to bedrock on steep slopes - maintain soil stability.

Southeast winds predominate - maintain windfirm boundary.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III streams within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, and E11).

B. Transportation System

Specified road 6491 ends at unit boundary. Temporary spur continues on into unit.

C. Unit Design

Tebenkof Bay Wilderness boundary has been surveyed. Unit will not encroach into the wilderness.

Partial suspension required to protect steep soils below the road.

Full suspension required over Class III streams.

Consider topping trees on northwest boundary to provide a windfirm boundary.

D. Stikine Area/PNW Cooperation

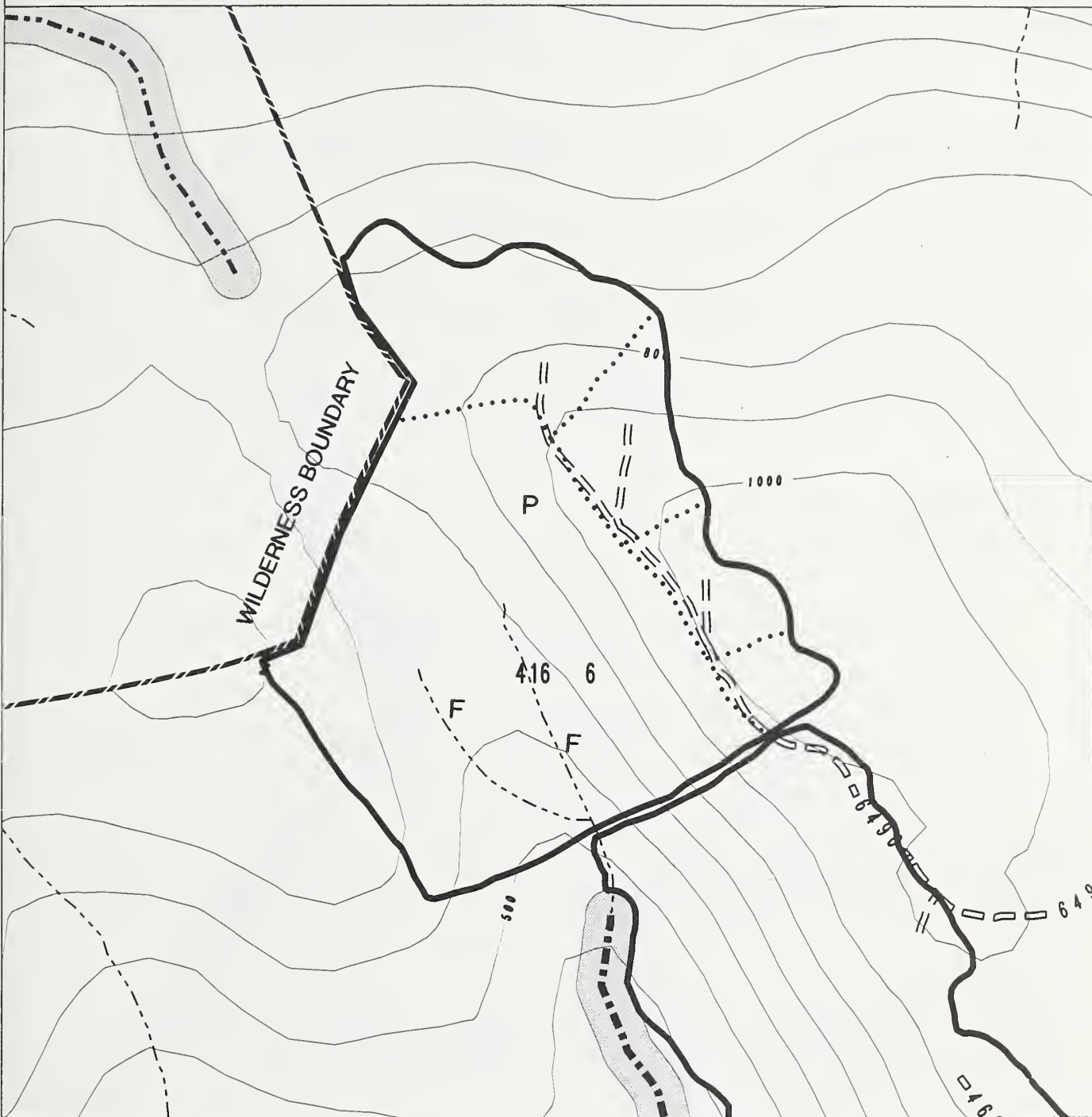
Any changes to this design will be cooperatively agreed to by PNW and the Stikine Area.

III. MONITORING ACTIVITIES

Ground water fluctuation, precipitation intensity, and ground movement will be monitored. Refer to the Study Plan for cooperative investigation of silvicultural alternatives to clearcutting in coastal Alaska.

UNIT MAP

416 - 6



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-7

Acres: 85 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 173 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 27 MBF/Acre Total Net Unit Volume: 567 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit meets TTRA requirements. This unit is proposed to be part of a research project with the Forest Sciences Lab - various harvest treatments will be applied to test effects on slope stability, hydrology, and vegetation management. Vegetative treatments can also be used to test the ability to meet visual and wildlife objectives.

Study windfirmness - understand variables affecting windthrow.

The unit is visible from the head of Alvin Bay at a skewed, indirect angle - meet the inventoried VQO of modification.

Class I stream on the western boundary - maintain riparian buffer.

Soil is shallow to bedrock on steep slopes - maintain soil stability.

Southeast winds predominate - maintain windfirm boundary.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as uneven-aged stand, partial cut for natural regeneration, maintain live root biomass, certify natural regeneration.

2. Aquatic Habitat:

Maintain a 100-foot buffer on the Class I portion of the stream on the western boundary (BMP 12.6)

Stream above falls will be protected by contract provision B6.5b (BMP 13.16 E5, E9, E11).

B. Transportation System

Specified road 6491 accesses the top of the unit. Road 46911 will access the southeast corner of unit. This short road will be specified due to the continuing nature of the research project.

C. Unit Design

Full suspension required below the road.

Tailholds are necessary across stream to meet suspension requirements.

Unit to be logged by helicopter or cable system capable of meeting suspension requirements.

D. Stikine Area/PNW Cooperation

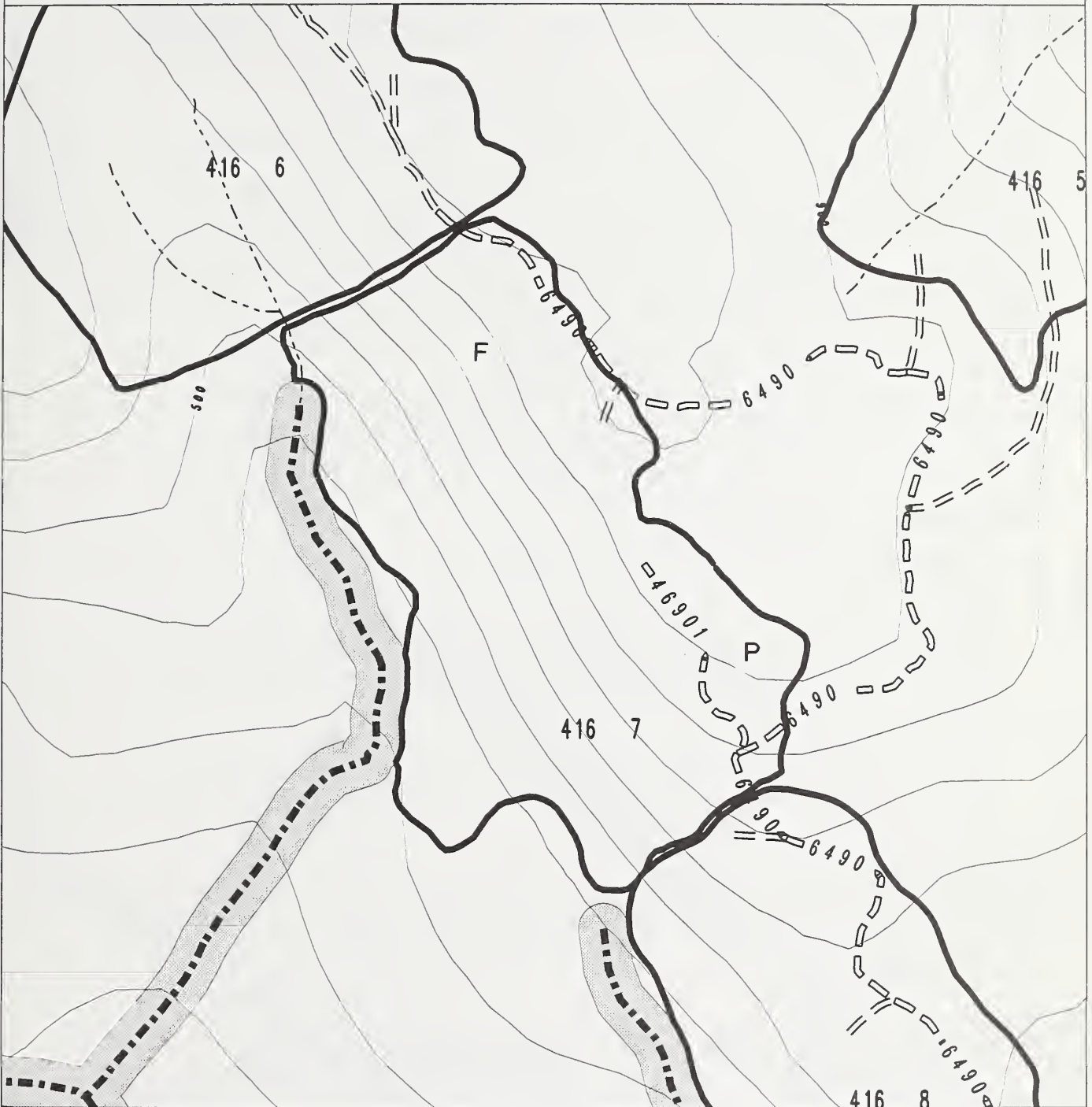
Any changes to this design will be cooperatively agreed to by PNW and the Stikine Area.

III. MONITORING ACTIVITIES

Ground water fluctuation, precipitation intensity, ground movement, vegetative successional changes, and dwarf mistletoe infestations will be monitored throughout the life of the study. Refer to the Study Plan for cooperative investigation of silvicultural alternatives to clearcutting in coastal Alaska.

UNIT MAP

416 - 7



100 Ft Contour Interval

UNIT BOUNDARY
SETTING BOUNDARY

EXISTING SPECIFIED ROAD

PROPOSED SPECIFIED ROAD

PROPOSED TEMPORARY ROAD

HARVESTED UNIT

UNIT HARVESTED BEFORE TTRA



F FULL SUSPENSION YARDING

P PARTIAL SUSPENSION YARDING

SALTWATER

100' TTRA BUFFER

LAKES

STREAM - CLASS I

STREAM - CLASS II

STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-8

Acres: 64 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 29 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1,408 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

This unit is proposed to be part of a research project with the Forest Sciences Lab - various silvicultural treatments will be applied to test effects on slope stability, hydrology, and vegetation management.

Vegetative treatments can also be used to test the ability to meet visual and wildlife objectives.

Study windfirmness - understand variables affecting windthrow.

The unit is visible from the head of Alvin Bay at a skewed, indirect angle - meet the inventoried VQO of modification.

Soil is shallow to bedrock on steep slopes - maintain soil stability.

Southeast winds predominate - maintain windfirm boundary.

Class I stream on the southwest boundary - maintain riparian buffer.

Soil is shallow to bedrock on steep slopes - maintain soil stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

Study yellow cedar natural regeneration - maintain species diversity.

2. Aquatic Habitat:

Leave 100-foot buffer along the Class I stream along the SW boundary of the unit (BMP 12.6). Buffer along stream is parallel to predominant wind direction.

B. Transportation System

Specified road 6491 will access the top of the unit. This ridge-top road will be visible from the head of Alvin Bay. Do not locate quarry sites inside the unit, if possible. Four short temporary spurs access landings inside the unit.

C. Unit Design

Full suspension required on steep slopes below landings.

Unit to be logged by cable system capable of meeting suspension requirements.

Consider topping trees on northwest boundary to provide a windfirm boundary.

D. Stikine Area/PNW Cooperation

Any changes to this design will be cooperatively agreed to by PNW and the Stikine Area.

III. MONITORING ACTIVITIES

Ground water fluctuation, precipitation intensity, ground movement, vegetative successional changes, and dwarf mistletoe infestations will be monitored throughout the life of the study. Refer to the Study Plan for cooperative investigation of silvicultural alternatives to clearcutting in coastal Alaska.

UNIT MAP

416 - 8



- | | | |
|--|---|--|
| <p>UNIT BOUNDARY</p> <p>SETTING BOUNDARY</p> <p>EXISTING SPECIFIED ROAD</p> <p>PROPOSED SPECIFIED ROAD</p> <p>PROPOSED TEMPORARY ROAD</p> <p>HARVESTED UNIT</p> <p>UNIT HARVESTED BEFORE TTRA</p> | <p>100 Ft Contour Interval</p> <p>0 330 660 990 1320 Feet</p> <p>1 Inch = 660 Feet</p> <p>F FULL SUSPENSION YARDING</p> <p>P PARTIAL SUSPENSION YARDING</p> | <p>SALTWATER</p> <p>100' TTRA BUFFER</p> <p>LAKES</p> <p>STREAM - CLASS I</p> <p>STREAM - CLASS II</p> <p>STREAM - CLASS III</p> |
|--|---|--|



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-9

Acres: 36 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 172 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 774 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I stream northwest of unit - maintain riparian buffer.

Class I stream heavily used by wildlife - maintain travel corridor.

Class III stream on southwest boundary - maintain stream channel stability.

East and southeast winds prevail - maintain windfirm buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain buffer of at least 100 feet between unit and Class I stream to the northwest (BMP 12.6).

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Wildlife Habitat:

Class I stream buffer will provide riparian travel corridor.

B. Transportation System

Temporary spur road accesses this unit.

C. Unit Design

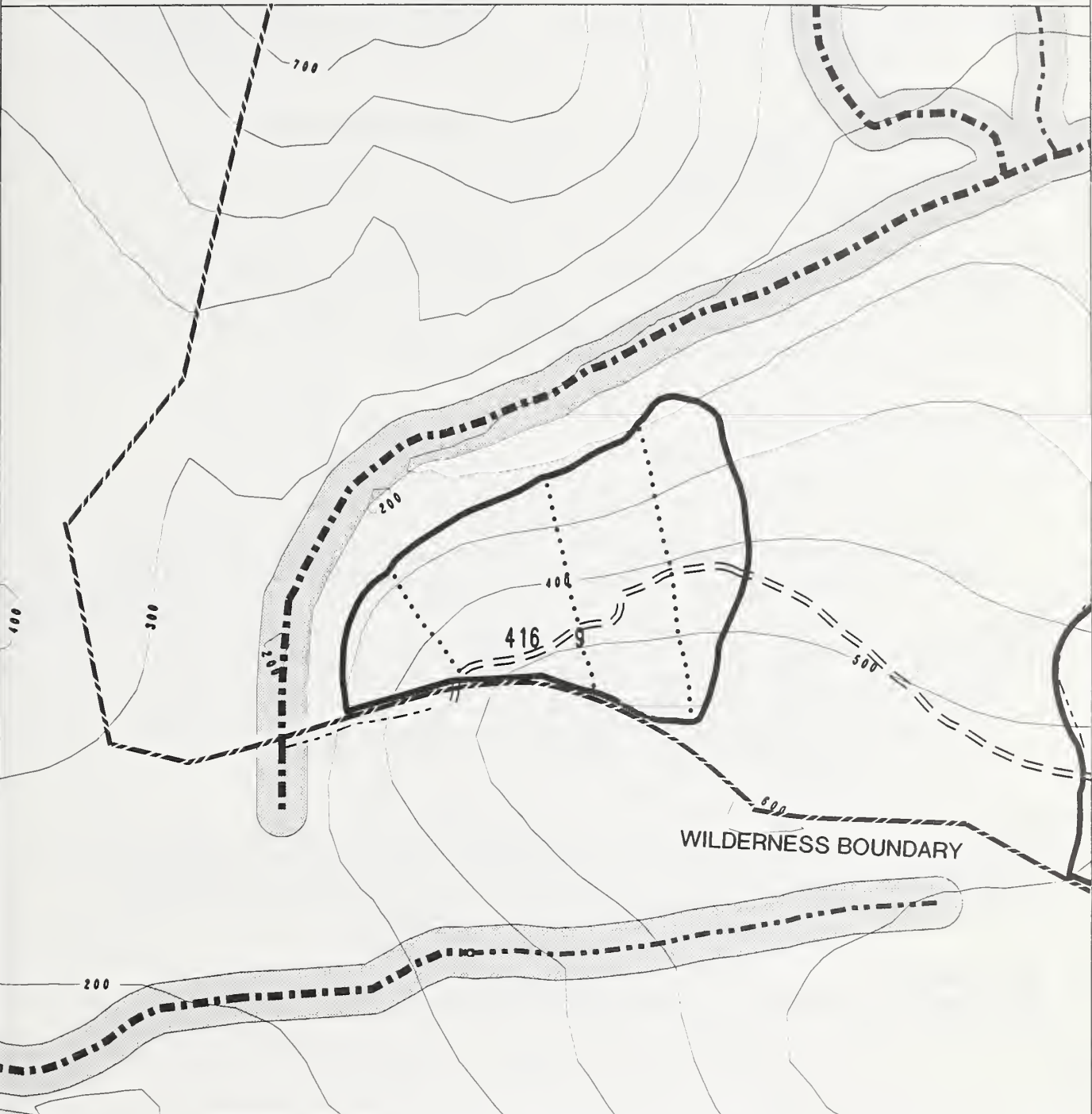
The northern portion of the original unit was deleted to provide the 100-foot buffer along the stream.

The Tebenkof Bay Wilderness is located south of unit.

Wind is not expected to be a problem because the unit is located on the leeward side of the ridge and an extended width buffer is planned along the Class I stream.

UNIT MAP

416 - 9



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-10

Acres: 85 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 172 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1,852 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

The eastern half of the unit is visible from Alvin Bay - meet VQO of Modification.

Five Class III streams in or bordering unit - maintain stream channel stability.

Area north of unit is a wildlife corridor - maintain travel corridor.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III streams on northern unit boundary and in southeast part of unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, and E11). Full suspension required.

Two Class III streams in northern portion of unit will be protected under contract provision B6.5c (BMP 13.16 E5, E9 and E11).

B. Transportation System

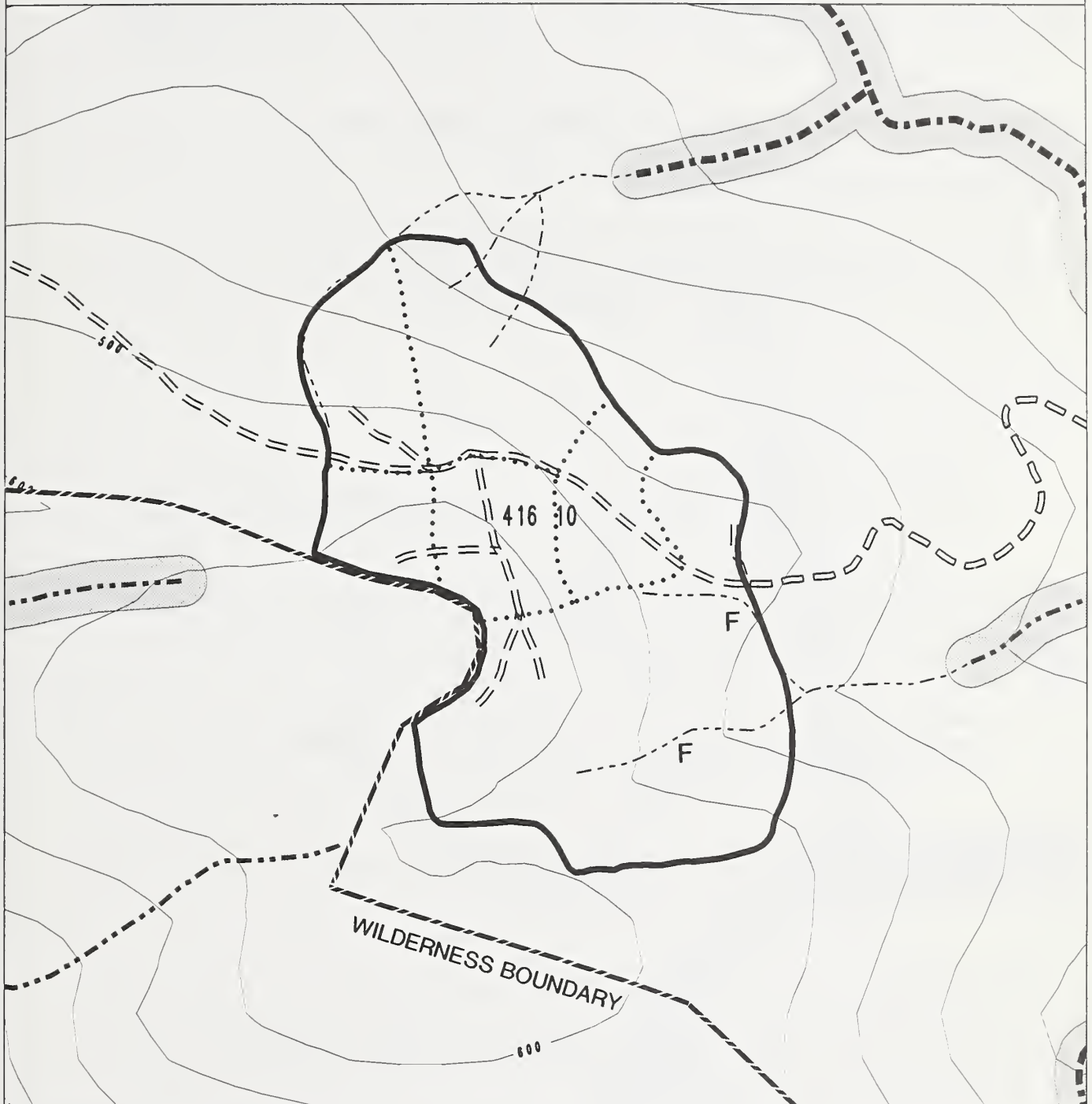
Specified road 6490 will end at unit boundary. Spur continues through and into 416-9. Rock pits should not be located inside unit. Southern spur located on benched area; work with grades to minimize visibility of road.

C. Unit Design

North and west boundaries are along scrub muskeg to minimize windthrow potential.

UNIT MAP

416 - 10



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-11

Acres: 79 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 28 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1,720 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II stream near the NE corner - maintain riparian buffer.

Two Class III streams within the unit - maintain stream channel stability.

Unit is visible from salt water - meet VQO of Modification.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation Management:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along the Class II stream in the NE corner of unit (BMP 12.6).

The two Class III streams within the unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Visuals:

Due to topographic features and viewing distance from Reid Bay, unit will meet Modification VQO.

B. Transportation System

Specified road 6492 ends at the Class III stream at the unit boundary. One temporary spur will continue into the unit.

C. Unit Design

The northeast boundary was pulled back to permit inclusion of the 100-foot required buffer.

Northeast boundary along Class III stream is oriented parallel to predominant winds. Northwestern boundary is located along scrub muskeg providing protection from windthrow.

UNIT MAP

416 - 11



- | | | | | | |
|--|----------------------------|-------------------------|-----------------------------|--|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 | 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | | | | LAKES |
| | PROPOSED SPECIFIED ROAD | 1 Inch = 660 Feet | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | FULL SUSPENSION YARDOING | | STREAM - CLASS II |
| | HARVESTED UNIT | | PARTIAL SUSPENSION YARDOING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | | | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-12

Acres: 21 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 28 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 399 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Two Class III streams in the unit - maintain stream channel stability.

Un-stable soils near the southwestern boundary - maintain soil stability.

Class I stream located outside of the NE unit boundary - maintain riparian buffer.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation Management:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain buffer of 100 feet from Class I stream (BMP 12.6).

Class III streams within unit will be protected by contract provision B6.5b (BMP 13.16 E5, E9, E11).

B. Transportation System

Unit will be accessed by a temporary spur road off of specified road 6492.

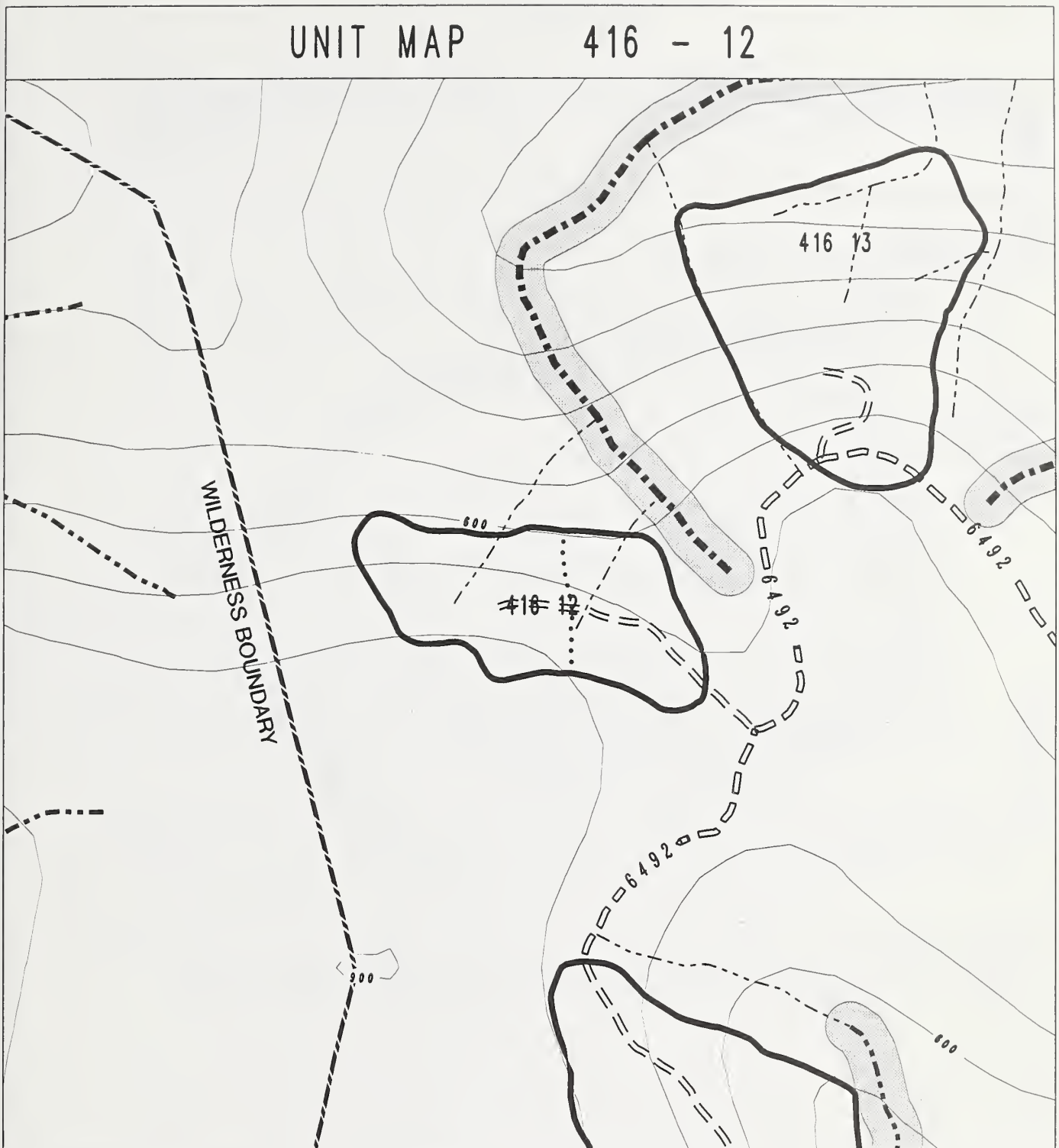
C. Unit Design

Boundary was located to avoid area of unstable soils near the southwest corner of the unit.

The unit is located on the lee side of a hill, so little problem is expected from the southeastern winds.

UNIT MAP

416 - 12



- | | | | | |
|--|----------------------------|------------------------------|--|--------------------|
| | UNIT BOUNDARY | | | SALTWATER |
| | SETTING BOUNDARY | 0 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | 1 inch = 660 Feet | | LAKES |
| | PROPOSED SPECIFIED ROAD | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | | STREAM - CLASS II |
| | HARVESTED UNIT | F FULL SUSPENSION YARDING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | P PARTIAL SUSPENSION YARDING | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-13

Acres: 32 Alternative: 3 LUD: IV Mgmt. Area: SO9
1977 Aerial Photo: Flight# 13, Photo# 28 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 704 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I stream north of unit - maintain riparian buffers.

Class III streams within and adjacent to unit - maintain stream channel stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation Management:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand. Where applicable, leave green trees for wildlife habitat diversity.

2. Aquatic Habitat:

Maintain 100-foot buffers on the Class I stream located just north of the unit (BMP 12.6).

Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Landings need to be carefully located so that trees are not pulled directly up the stream channels (BMP 13.10).

B. Transportation System

Specified road 6492 is located along the top of the unit. One temporary spur is planned.

C. Unit Design

Class III streams along the eastern and western boundaries.

Unit is located on the lee side of hill. Windthrow is not a concern.

UNIT MAP

416 - 13



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

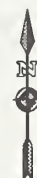
100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- F** FULL SUSPENSION YARNOING
- P** PARTIAL SUSPENSION YARNOING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-14

Acres: 37 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 29 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 760 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

A Blue Heron nest was noted along the west boundary just north of the road - protect nest if occupied during time of harvest.

Class I and II stream to the north of the unit - maintain riparian buffer. Three Class III streams within and adjacent to unit - maintain stream channel stability.

The unit will be visible from Alvin Bay - meet the VQO of Modification.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation Management:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along the Class I and II stream just north of the unit (BMP 12.6).

Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Wildlife Habitat:

If heron nest is occupied, logging operations will need to be delayed until after July 1 to permit birds to leave the nest before harvest.

4. Visuals:

Unit is part of the Reid Bay viewshed and will meet the Modification VQO.

B. Transportation System

Specified road 6492 will access unit. Two temporary spur roads are planned.

C. Unit Design

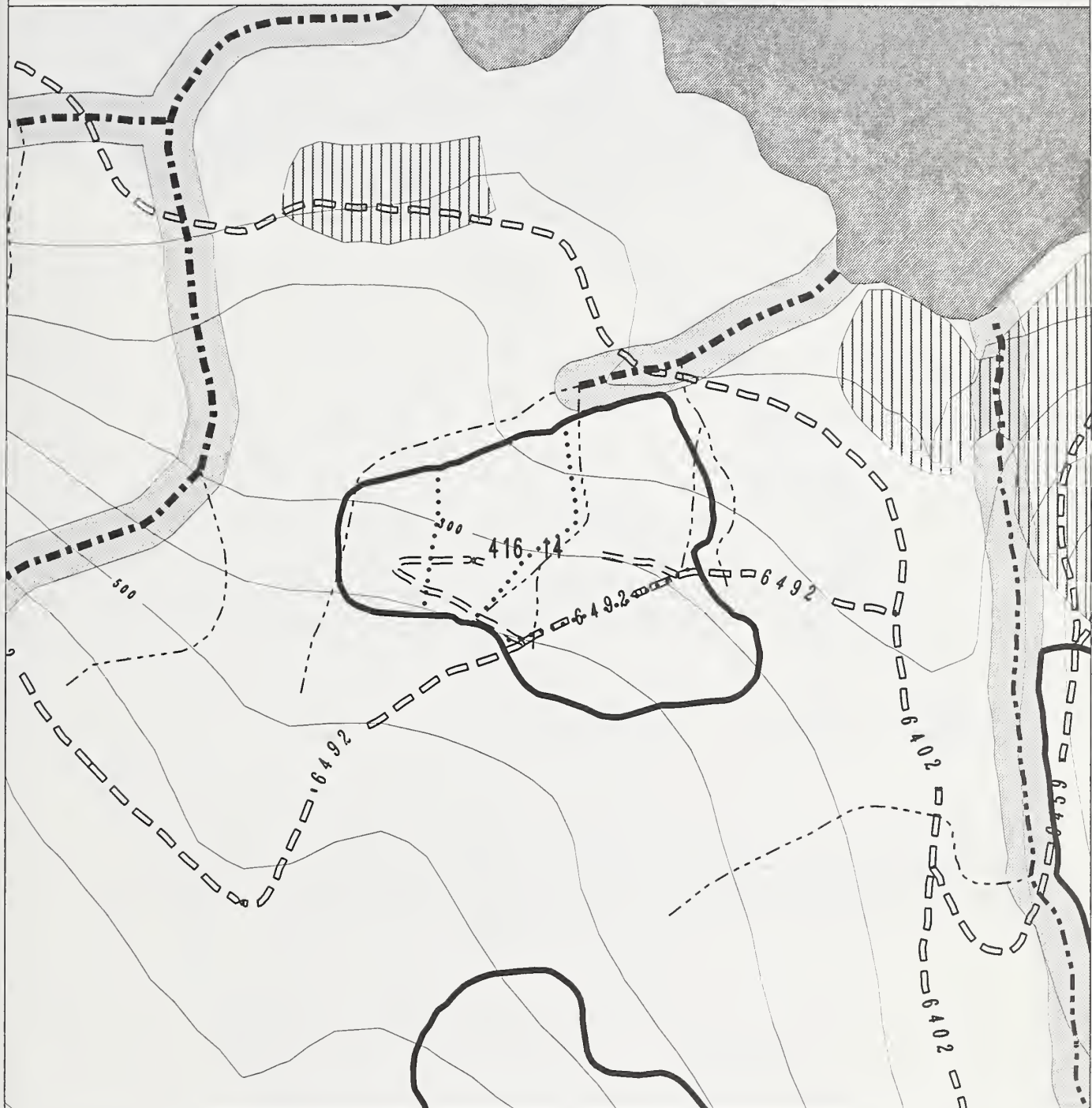
The southern boundary is designed to blend with natural landscape features.

Boundary has been located to exclude the blue heron nest site.

Unit is located on leeward side of hill, protecting it from windthrow.

UNIT MAP

416 - 14



- | | | | | | |
|--|----------------------------|-------------------------|------------------------------|--|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 | 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | | | | LAKES |
| | PROPOSED SPECIFIED ROAD | 1 inch = 660 Feet | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | F FULL SUSPENSION YARDING | | STREAM - CLASS II |
| | HARVESTED UNIT | | P PARTIAL SUSPENSION YARDING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | | | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-15

Acres: 30 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 235 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 633 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is visible from Alvin Bay - meet VQO of modification.
Class I streams adjacent to unit - maintain riparian buffers.
Class III near the western boundary - maintain stream channel stability.
Area of braided channels east of unit - avoid area.
Moderately unstable soils in southeast portion of unit - maintain soil stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation Management:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer on the Class I channels (BMP 12.6).
Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

B. Transportation System

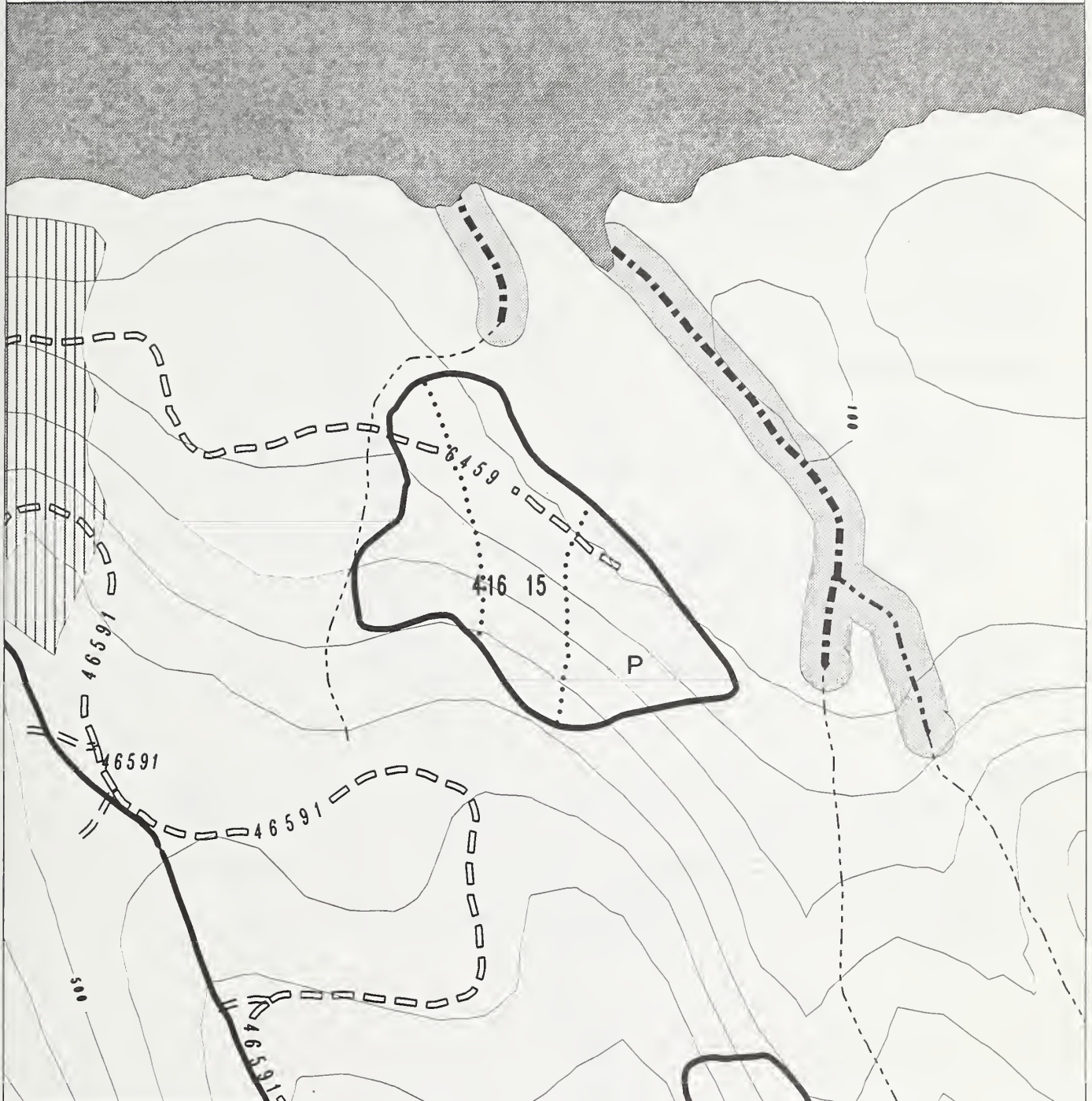
Specified road 6459 is proposed to access unit.

C. Unit Design

The area of braided channels was deleted from the unit.
Partial suspension is required in area of unstable soils.
Ensure that the western portion of the unit is located over the ridge line.
Unit is on leeward side of hill and is expected to be windfirm.

UNIT MAP

416 - 15



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

0 330 660 990 1320 Feet
1 inch = 660 Feet

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-16

Acres: 75 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 28 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 24 MBF/Acre Total Net Unit Volume: 1,768 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Unstable soils in the lower third of the unit - maintain soil stability.
Class II stream along western boundary - maintain riparian buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation Management:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along the Class II stream near the western boundary of the unit (BMP 12.6).

B. Transportation System

Specified road 6459 will provide access to the unit. Short temporary spurs are planned.

C. Unit Design

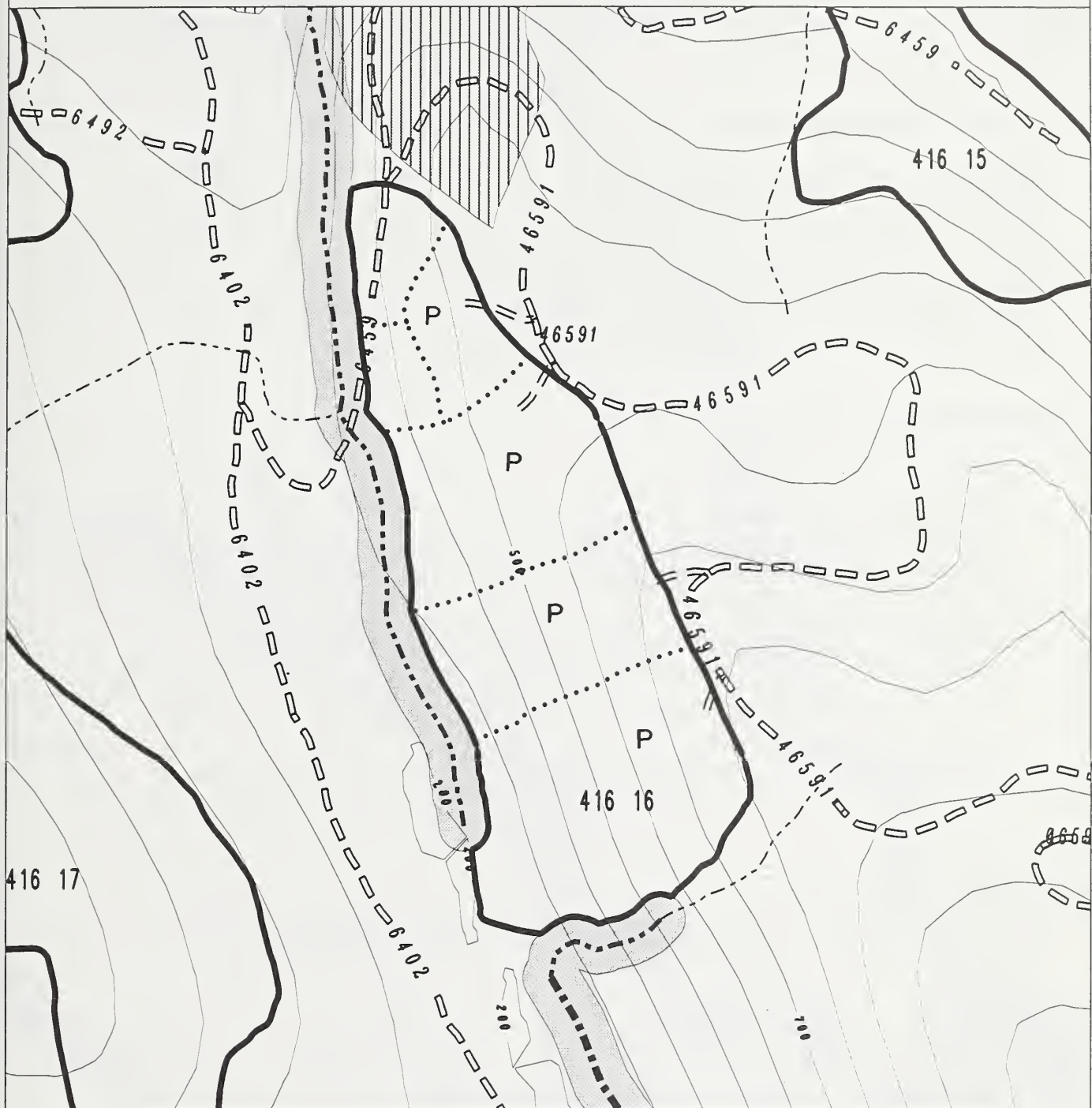
Protect the unstable soils on the lower third of the unit by locating yarding tailhold trees across road 6402 to achieve the necessary deflection to get partial suspension.

Yarding corridors may be necessary through the Class II stream to provide the needed suspension over the fragile soils.

Northern boundary is adjacent to existing opening providing protection from windthrow.

UNIT MAP

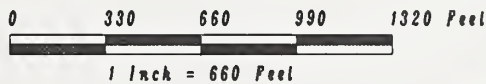
416 - 16



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-19

Acres: 56 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 237 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 1,196 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Unit is located in an important travel and foraging area for wildlife - maintain travel corridors along the unit's edges.

Unit is seen from Reid Bay - meet VQO of Modification.

Class I stream near the eastern boundary - maintain riparian buffer.

Complex of Class II streams west of unit - maintain riparian buffer.

Southeast winds are predominant - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation Management:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer on the Class I stream to the east and the complex of Class II streams to the west (BMP 12.6).

3. Wildlife Habitat:

Buffers of over 100 feet (up to 150 feet) should be left to assure wildlife travel corridor and stream protection due to the windthrow risk.

B. Transportation System

Specified road 6402 will access unit. Two temporary spurs are planned. Do not develop rock pits in portions of road visible from salt water.

C. Unit Design

Eastern and western boundaries are adjacent to stream buffers that are located parallel to the prevailing winds.

Northern boundary adjacent to scrub timber which should be windfirm.

UNIT MAP

416 - 19



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-20

Acres: 98 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 26 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 1,868 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I streams adjacent to unit - maintain riparian buffers.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers along Class I streams on the SW and NE sides of the unit (BMP 12.6).

B. Transportation System

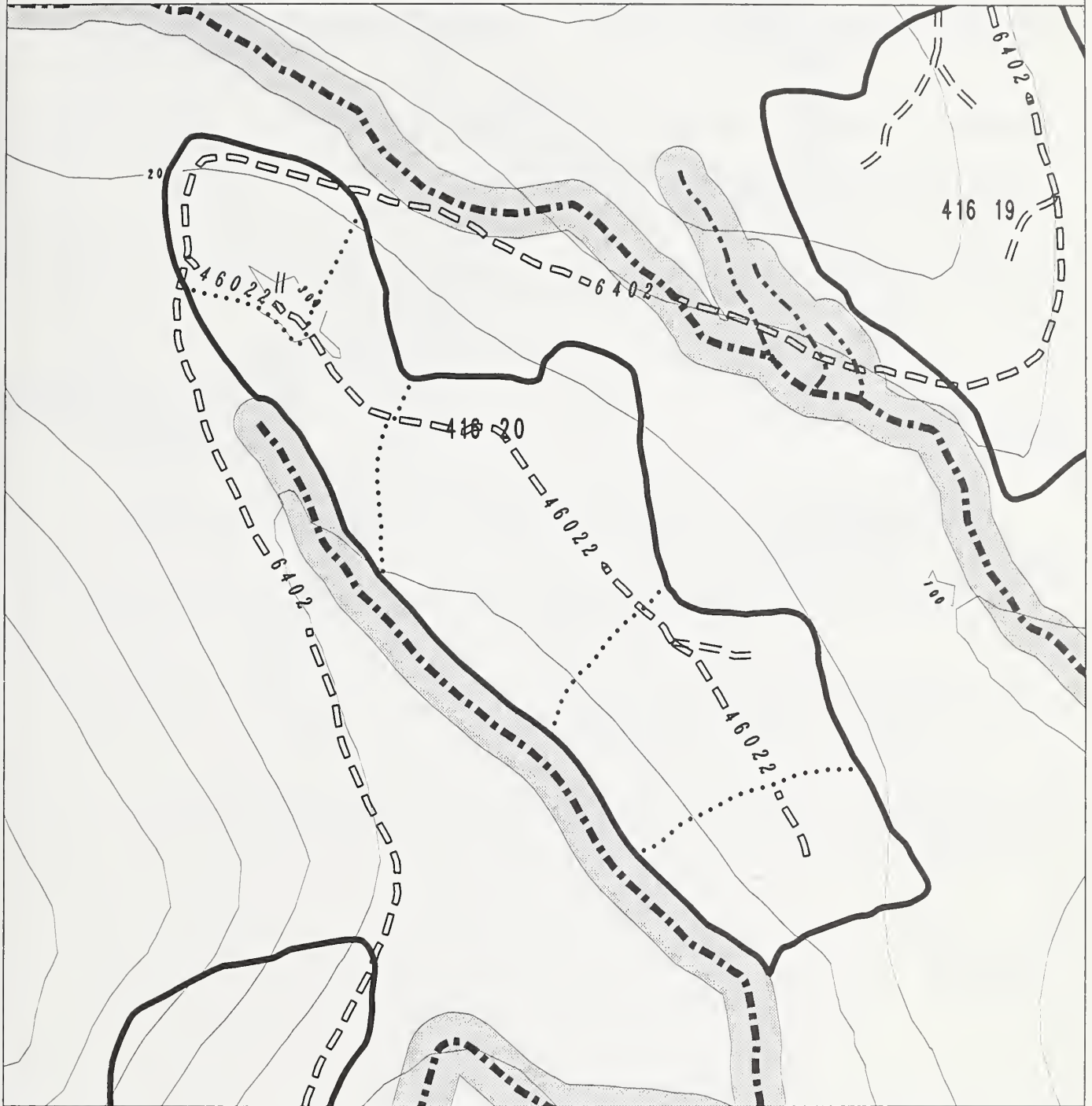
Specified road 46022 accesses unit. Two temporary spur roads are planned.

C. Unit Design

Unit surrounded by scrub muskeg which should be windfirm.

UNIT MAP

416 - 20



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-21

Acres: 21 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 26 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 23 MBF/Acre Total Net Unit Volume: 484 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Unit will be seen from the northern arm of Reid Bay - meets VQO of Modification.

Class I stream on the NW side of the unit - maintain riparian buffer.
Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Provide a 100-foot buffer along the Class I stream on the NW corner of the unit (BMP 12.6).

B. Transportation System

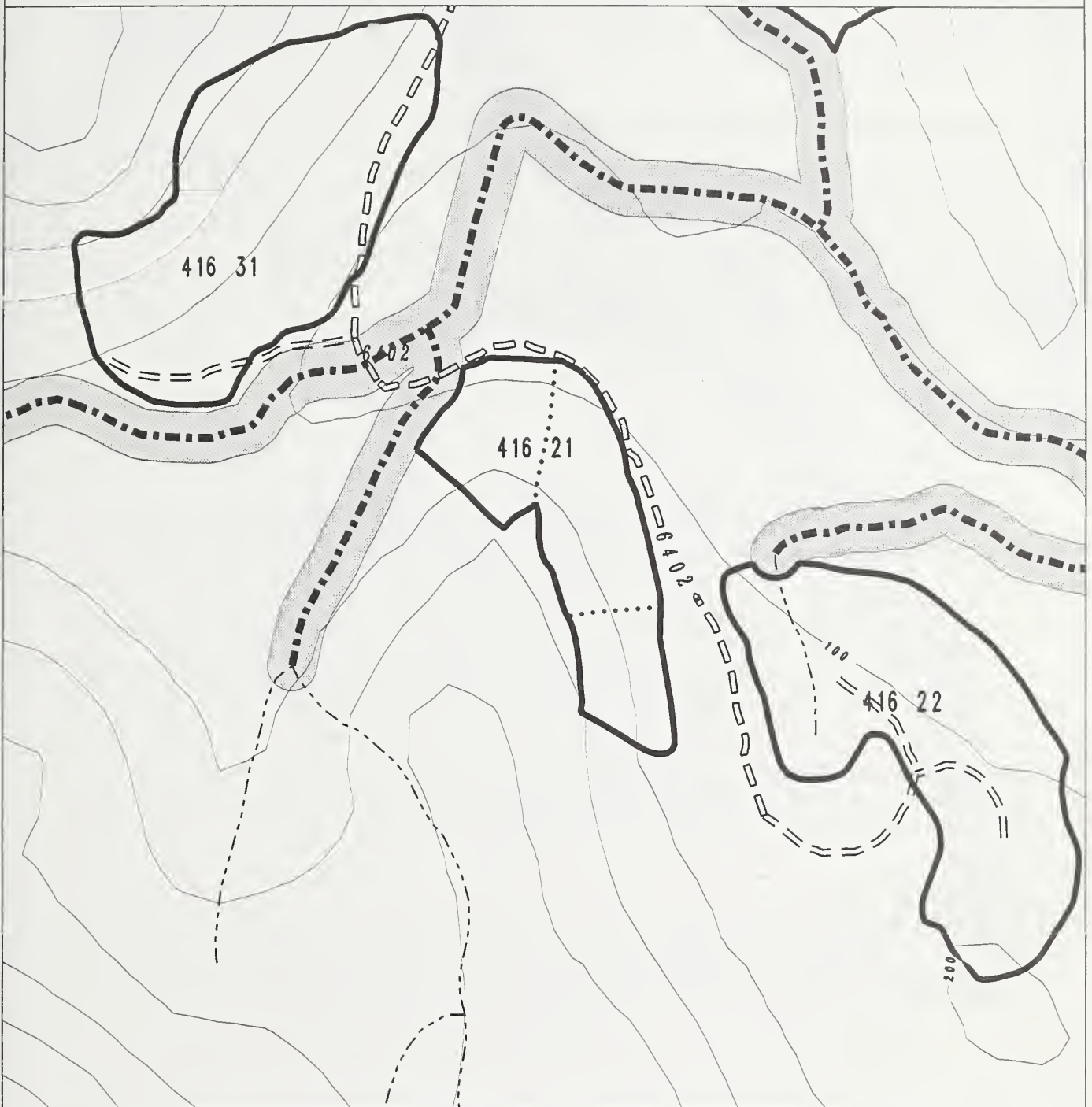
Proposed specified road 6402 accesses unit.

C. Unit Design

Stream buffer located on lee side of ridge to provide protection from windthrow.

UNIT MAP

416 - 21



- | | | | | | | | | |
|--|----------------------------|-------------------------|-----------------------------|-----|--------------------|-----------|--|------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER | | | |
| | SETTING BOUNDARY | 0 | 330 | 660 | 990 | 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | | | | | | | LAKES |
| | PROPOSED SPECIFIED ROAD | 1 Inch = 660 Feet | | | | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | F | FULL SUSPENSION YARDOING | | STREAM - CLASS II | | | |
| | HARVESTED UNIT | P | PARTIAL SUSPENSION YARDOING | | STREAM - CLASS III | | | |
| | UNIT HARVESTED BEFORE TTRA | | | | | | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-22

Acres: 33 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 26 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 699 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Unit is visible from the north arm of Reid Bay - meets VQO of Modification.

Class I streams adjacent to unit - maintain riparian buffers.

Deeply incised and unstable streambanks along the Class III stream within unit - maintain stream channel stability.

Unit located near beach - maintain estuary habitat.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along the Class I stream on the north and northeast (BMP 12.6).

Class III stream within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

B. Transportation System

Specified road 6402 is located along the western unit boundary. Interior landings accessed by temporary spur roads.

C. Unit Design

Northeast boundary will follow scrub patch to provide an extended windfirm buffer to the Class I stream.

Northwestern boundary takes advantage of area of scrub timber and natural break between estuary and unit to provide an estuary buffer for wildlife.

UNIT MAP

416 - 22



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-27

Acres: 32 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 236 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 587 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Deeply incised Class III stream along eastern boundary - maintain stream channel stability.

Moderately unstable soils in unit - maintain soil stability.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

B. Transportation System

Specified road 46591 accesses unit. Four temporary spur roads are planned.

C. Unit Design

Eastern boundary of unit is kept above the oversteepened side slopes of the v-notched Class III stream. Partial suspension required.

Unit lies on the leeward side of mountain providing protection from windthrow.

416 - 27

416 - 27



100 Ft Contour Interval

0 330 660 990 1320 Peel

1 inch = 660 Feet

UNIT BOUNDARY

..... SETTING BOUNDARY

===== EXISTING SPECIFIED ROAD

— — — — PROPOSED SPECIFIED ROAD

== ~~XXXXXX~~ ~~XXXXXX~~ == PROPOSED TEMPORARY ROAD

 HARVESTED UNIT UNIT HARVESTED BEFORE TTRA

F FULL SUSPENSION YARDING

P PARTIAL SUSPENSION YARDING

 SALTWATER

100' TTRA BUFFER

LAKES

██████████ STREAM - CLASS I

----- STREAM - CLASS II

— ~ ~ ~ — ~ ~ . STREAM - CLASS III

NORTH AND EAST KUIU UNIT PLAN

UNIT 416-28

Acres: 51 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 236 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1,115 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Deeply incised Class III stream within unit - maintain stream channel stability.

Area visible from Alvin Bay - meets VQO of Modification.

Moderately unstable soils in unit - maintain soil stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Full suspension is required over this stream.

3. Visuals:

Unit is part of a long range, multi-entry scheme designed to work with the characteristic landscape.

B. Transportation System

Unit is accessed by two temporary spur roads off of specified road 46591.

C. Unit Design

Partial suspension is required to protect potentially unstable soils.

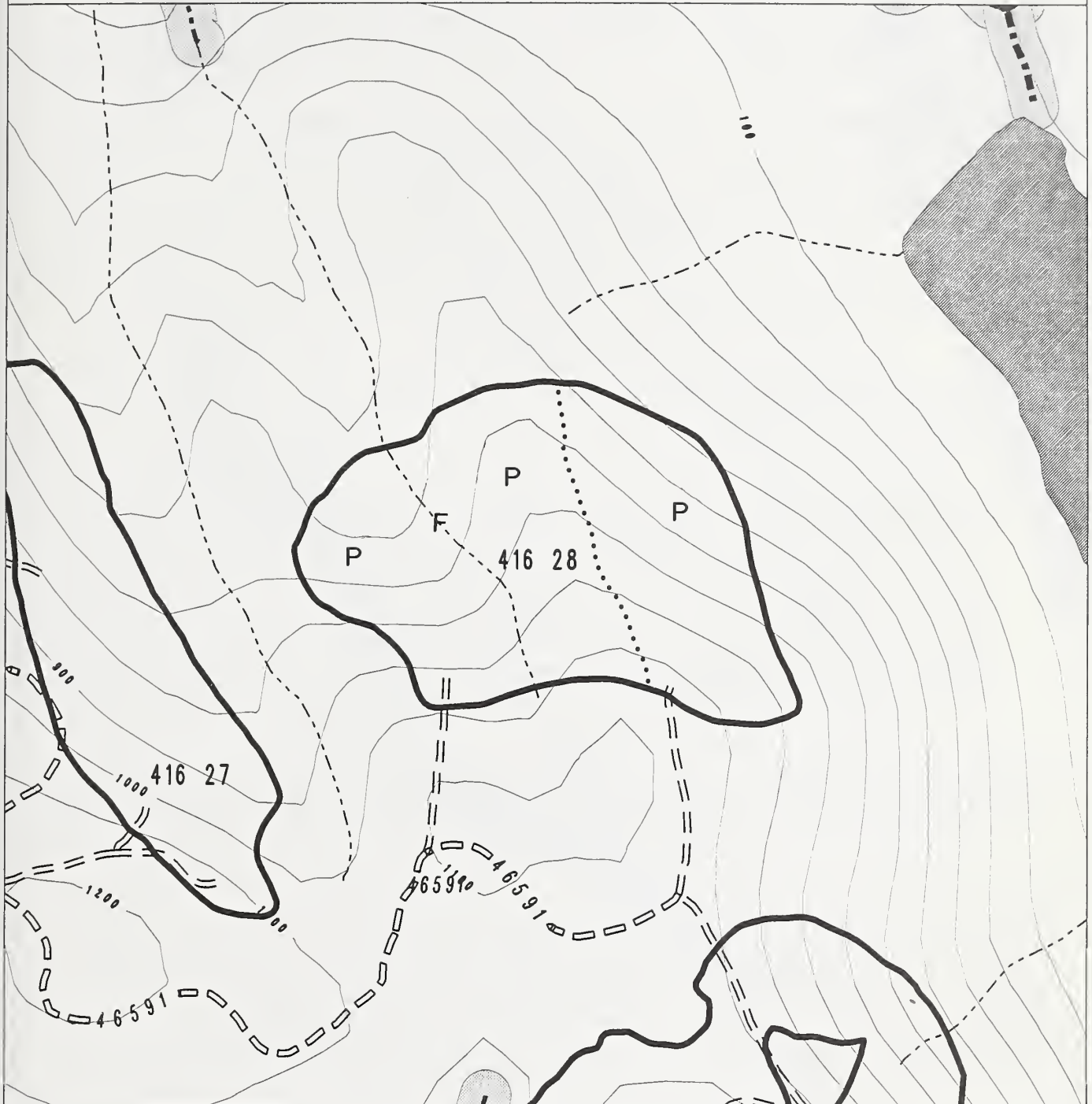
Locate the northeastern boundary along natural openings.





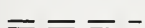


A natural appearing, undulating edge will ensure meeting the Modification VQO.

Unit is located on leeward wide of hill and boundaries should be windfirm.

UNIT MAP

416 - 28


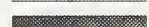

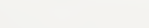


-  UNIT BOUNDARY
-  SETTING BOUNDARY
-  EXISTING SPECIFIED ROAD
-  PROPOSED SPECIFIED ROAD
-  PROPOSED TEMPORARY ROAD
-  HARVESTED UNIT
-  UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARNOING
- P** PARTIAL SUSPENSION YARNOING

-  SALTWATER
-  100' TTRA BUFFER
-  LAKES
-  STREAM - CLASS I
-  STREAM - CLASS II
-  STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-30

Acres: 94 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 237 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 26 MBF/Acre Total Net Unit Volume: 2,404 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class II stream west of unit - maintain riparian buffer.
Class III stream within unit - maintain stream channel stability.
Ridgetop area of unit is highly visible from outside Alvin Bay - meets VQO of Modification.
Moderately unstable soils in the northwest corner of unit - maintain soil stability.
Southeast winds dominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. Aquatic Habitat:
Maintain a 100-foot buffer on the Class II stream on the west side of the unit (BMP 12.6).
Class III stream within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

B. Transportation System

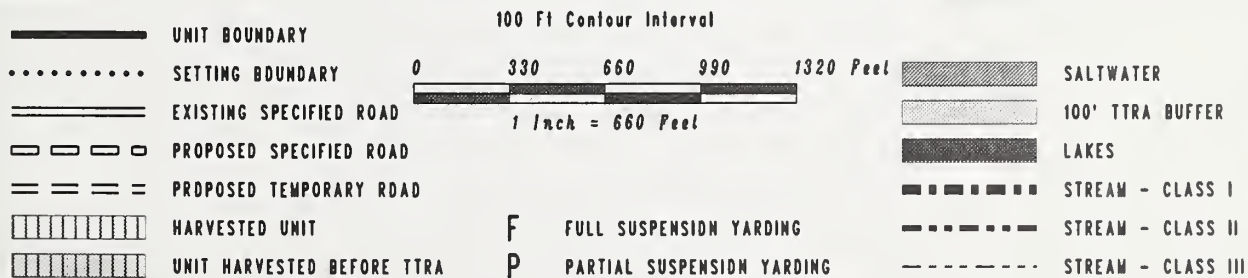
Specified road 46591 ends just north of unit boundary at the junction of the spur that accesses unit 416-28. Spur road continues on into unit.

C. Unit Design

Undulating eastern boundary viewed in conjunction with the island of leave trees to the north ensure meeting the VQO.
Partial suspension is required in the northwest portion of unit to protect soils.
Northern boundary is located on leeward side of knoll providing windfirmness. Boundaries take advantage of scrub timber to provide protection from windthrow.

UNIT MAP

416 - 30



NORTH AND EAST KUIU UNIT PLAN

UNIT 416-31

Acres: 36 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 26 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 783 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. The unit has been modified to conform to TTRA requirements.

Class I stream adjacent to unit - maintain riparian buffer.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along the Class I stream southeast of unit (BMP 12.6).

B. Transportation System

Specified road 6402 will access unit. One short spur road is planned.

C. Unit Design

Slight chance of windthrow along the northwest boundary.

UNIT MAP

416 - 31



100 Ft Contour Interval

UNIT BOUNDARY

SETTING BOUNDARY

EXISTING SPECIFIED ROAD

PROPOSED SPECIFIED ROAD

PROPOSED TEMPORARY ROAD

HARVESTED UNIT

UNIT HARVESTED BEFORE TTRA

0 330 660 990 1320 Feet

1 Inch = 660 Feet

F FULL SUSPENSION YARDING

P PARTIAL SUSPENSION YARDING

SALTWATER

100' TTRA BUFFER

LAKES

STREAM - CLASS I

STREAM - CLASS II

STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-1

Acres: 60 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 14 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 24 MBF/Acre Total Net Unit Volume: 1,452 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class III streams within and adjacent to unit - maintain stream channel stability.

The unit is viewed in the middleground from outside No Name Bay - meet VQO of Modification.

Moderately unstable soils in southeast portion of unit - maintain soil stability.

North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III streams will be protected by contract provision B6.5b (BMP 13.16 E5, E9, E11). Class III stream in center of unit is planned for splitline yarding. The Class II stream in the southeast portion of unit is planned to receive full suspension.

3. Visuals:

Unit is part of a landscape which forms the backdrop view of No Name Bay.

B. Transportation System

Specified road 6484 will be constructed to the last landing in the unit.

C. Unit Design

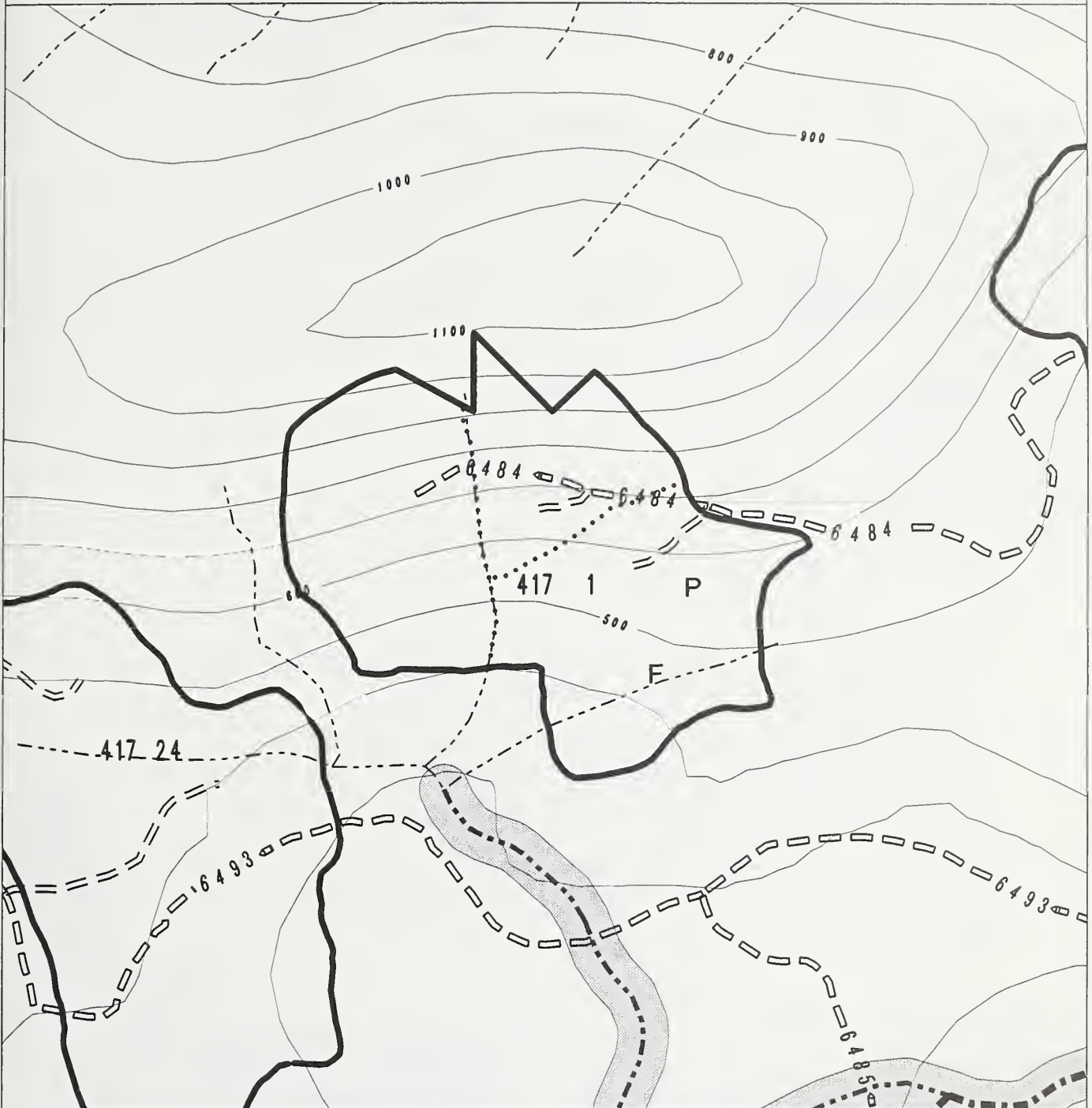
The backline is undulating and irregular to minimize the visual impact and meet the VQO.

Partial suspension designated for soils protection on southeast setting.

Unit located on lee side of hill from the north winds providing protection from windthrow.

UNIT MAP

417 - 1



100 Ft Contour Interval		
<ul style="list-style-type: none"> UNIT BOUNDARY SETTING BOUNDARY EXISTING SPECIFIED ROAD PROPOSED SPECIFIED ROAD PROPOSED TEMPORARY ROAD HARVESTED UNIT UNIT HARVESTED BEFORE TTRA 	<p>0 330 660 990 1320 Feet</p> <p>1 inch = 660 Feet</p>	<ul style="list-style-type: none"> SALTWATER 100' TTRA BUFFER LAKES STREAM - CLASS I STREAM - CLASS II STREAM - CLASS III
	<p>F FULL SUSPENSION YARDING</p> <p>P PARTIAL SUSPENSION YARDING</p>	



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-2

Acres: 74 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 228 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 16 MBF/Acre Total Net Unit Volume: 1,187 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I stream located at the north end of the unit - maintain riparian buffer.

Class III stream flowing east from the north end of unit - maintain stream channel stability.

Unit is located in deer winter range, near beach - maintain beach fringe buffer.

Important inland wetland habitat to the west of the unit (series of small lakes and ponds) - provide adequate buffer.

There may be potential fish enhancement opportunities (KV project) by providing access over a 10-foot fall to the pond complex west of unit (Rojo Creek).

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Provide 100-foot buffers on Class I streams (BMP 12.6).

Class III stream will be protected under contract provision B6.5c (BMP 13.16 E5, E9).

Conduct feasibility studies for the Rojo Creek fish ladder.

3. Wetland:

An area of small pond and wetlands near western boundary of unit will be protected by a buffer of approximately 100 feet (BMP 13.15).

4. Wildlife Habitat:

Maintain a 500-foot buffer between unit and beach to the east.

B. Transportation System

Road 6485 is specified to the unit boundary in order to control stream crossings.

Remove crossing structures after unit is complete.

Recommend temporary bridges to lessen costs and provide better fish passage.

C. Unit Boundary

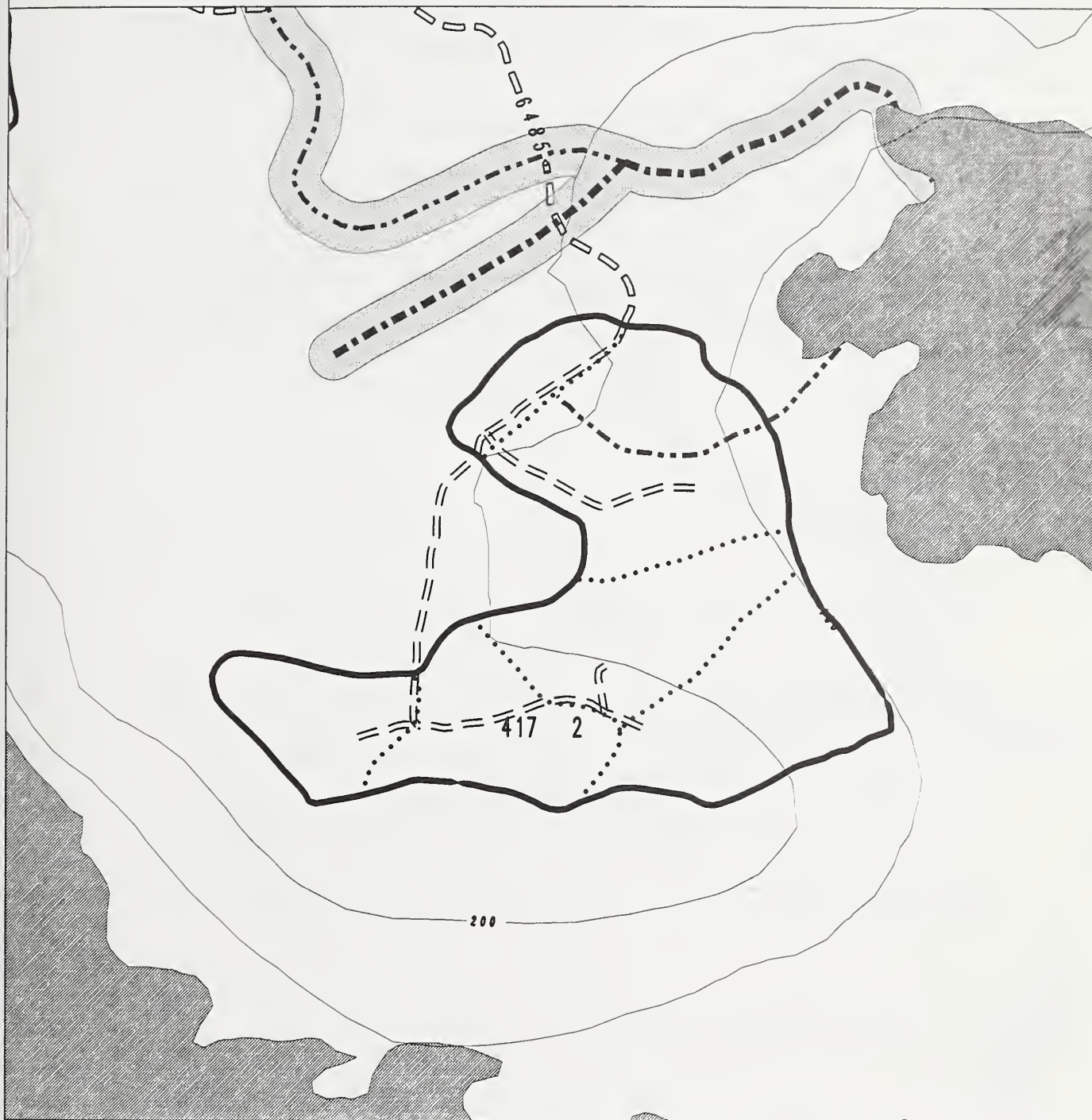
Maintain a buffer of at least 100 feet between western boundary and the series of small lakes and ponds to protect important wildlife wetland habitat.

Unit is designed to avoid wetlands.

Boundaries are adjacent to scrub timber which provides protection from windthrow.

UNIT MAP

417 - 2



	UNIT BOUNDARY				SALTWATER
	SETTING BOUNDARY				100' TTRA BUFFER
	EXISTING SPECIFIED ROAD				LAKES
	PROPOSED SPECIFIED ROAD				STREAM - CLASS I
	PROPOSED TEMPORARY ROAD				STREAM - CLASS II
	HARVESTED UNIT	F	FULL SUSPENSION YARDING		STREAM - CLASS III
	UNIT HARVESTED BEFORE TTRA	P	PARTIAL SUSPENSION YARDING		

NORTH AND EAST KUIU UNIT PLAN

UNIT 417-3

Acres: 35 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 178 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 752 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements. Unit was also changed between draft and final EIS to reduce visual impact and avoid harvest on areas of high hazard soil. Class I and III stream southeast of unit - maintain riparian buffer. Two Class III streams within unit - maintain stream channel stability. Wetlands east of unit - maintain buffer. The unit will be visible from Alecks Lake and No Name Bay indirectly at an oblique angle - meet inventoried VQO of Modification. Area of unstable soils above the unit - maintain soil stability. Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along the Class I portion of the stream southeast of unit (BMP 12.6).

Class III stream in southern portion of unit to be protected by contract provision B6.5c (BMP 13.16 E5, E9).

Class III stream in center of unit to be protected by contract provision B6.5b (BMP 13.16 E5, E9). Splitlining is planned.

3. Wetland:

The stream buffer southeast of unit will provide protection for the wetland area.

B. Transportation System

Unit is accessed by temporary spur from Rd. 6402.

C. Unit Design

The northwest boundary is located along the surveyed boundary of Tebenkof Wilderness Area.

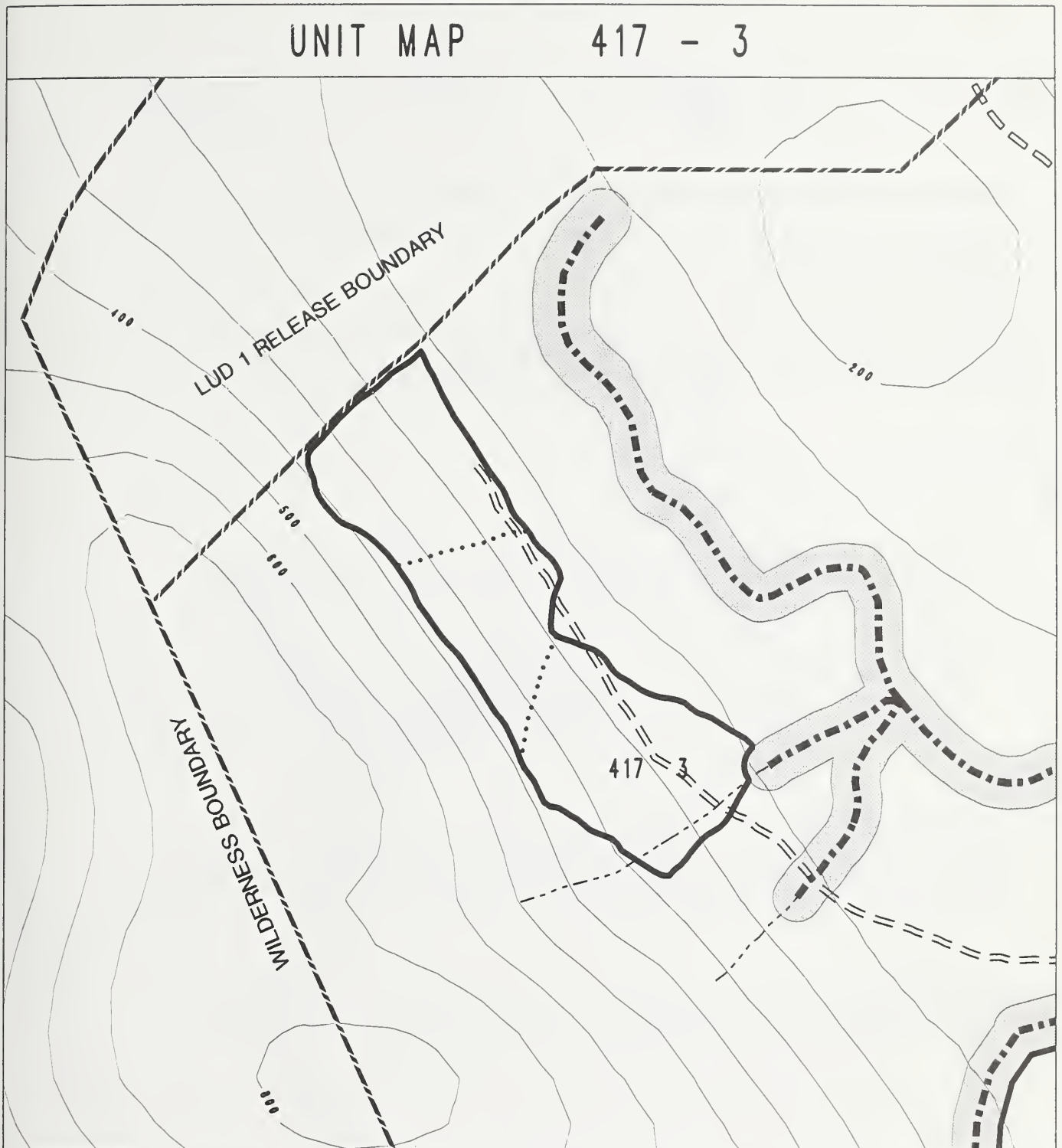
Area of unstable soils above unit was avoided.

Unit is designed to avoid wetlands.

Northern boundary is located low on the slope and is shielded by the knob east of unit, providing wind protection.

UNIT MAP

417 - 3



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

0 330 660 990 1320 Feet
1 inch = 660 Feet

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-4

Acres: 79 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 36 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 1,522 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II streams located on the west side of the unit - maintain riparian buffers.

Class III stream within unit - maintain stream channel stability.

Moderately unstable soils in entire unit - maintain soil stability.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream in unit will be protected under contract provision B6.5b (BMP 13.16, E5, E9, E11).

Maintain a 100-foot buffer along Class II streams west of unit (BMP 12.6)

B. Transportation System

Specified road 6493 runs through unit. Two temporary spurs access landings inside the unit. The junction of the eastern spur is critical. This junction is a control point for the design of the permanent system road 6493.

C. Unit Design

Partial suspension is recommended to protect soils on steep slopes.

Unit is topographically protected from southeast winds.

UNIT MAP

417 - 4



	UNIT BOUNDARY	100 Ft Contour Interval			SALTWATER
	SETTING BOUNDARY	0	330 660 990 1320 Feet		100' TTRA BUFFER
	EXISTING SPECIFIED ROAD	1 inch = 660 Feet			LAKES
	PROPOSED SPECIFIED ROAD				STREAM - CLASS I
	PROPOSED TEMPORARY ROAD				STREAM - CLASS II
	HARVESTED UNIT	F	FULL SUSPENSION YARDING		STREAM - CLASS III
	UNIT HARVESTED BEFORE TTRA	P	PARTIAL SUSPENSION YARDING		

NORTH AND EAST KUIU UNIT PLAN

UNIT 417-5

Acres: 70 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 36 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 1,504 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I stream to the east and Class II stream to the south of unit - maintain riparian buffers.

Class III streams within the unit - maintain stream channel stability.

Unit will be seen in the middleground from a bight north of No Name Bay - meet the VQO of Modification.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Provide 100-foot buffers on Class I and II streams (BMP 12.6).

Class III streams within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Full suspension is planned.

B. Transportation System

Specified roads 6493 and 6483 will access unit. One temporary spur is planned.

C. Unit Boundary

Unit will only be seen for a short duration from the salt water travel route, and as planned, will meet the VQO of Modification.

Locate landing such that logs are not yarded directly up or closely parallel to the northern Class III stream (BMP 13.10).

Moderate chance of windthrow on the northern boundary. Boundary is on the north side of notch to protect it from windthrow. Class I stream buffer is parallel to the southeast winds.

UNIT MAP

417 - 5



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-6

Acres: 66 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 35 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 1,155 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Unit located near beach - maintain beach fringe buffer.

Class II stream in southeast portion of unit runs directly to saltwater - maintain stream channel stability.

Class III streams in the northeast portion of unit - maintain stream channel stability.

The unit is visible from No Name Bay - meet the VQO of Modification.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

The Class II stream and the Class III stream on the northeast boundary will be protected under contract provision B5.6b (BMP 13.16 E2, E5, E9, E11). Splitlining is planned.

Class III stream in north end of unit will be protected under contract provision B6.5c (BMP 13.16 E5, E9).

Maintain 100-foot buffer on Class I stream to the north of the unit boundary (BMP 12.6).

3. Wildlife Habitat:

Provide a 500-foot beach fringe buffer along the eastern edge of unit.

4. Visuals:

Landscape comprised of a low-lying knoll (approx. 300-foot elevation) and is seen in the middle ground from No Name Bay.

B. Transportation System

Unit will be accessed by temporary spur off of specified road 6493.

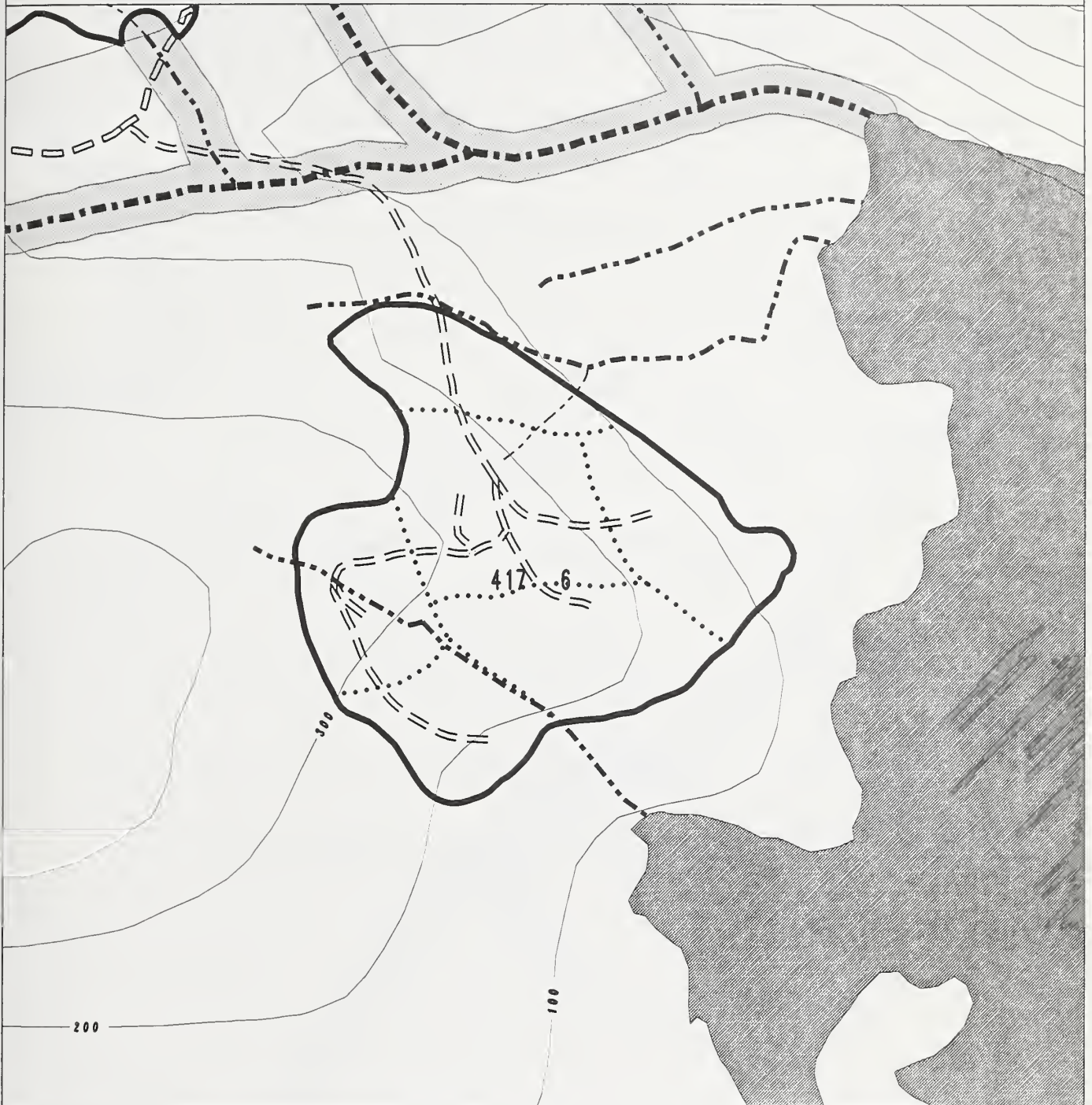
C. Unit Design

Maintain irregular, undulating edge on western boundary to ensure meeting the Modification VQO.

Moderate to low chance of windthrow in this area.

UNIT MAP

417 - 6



- | | | | | | | | | | | | | | | | | | | | |
|--|---------------|--|------------------|--|-------------------------|--|-------------------------|--|-------------------------|--|----------------|--|----------------------------|--|------------------|--|-------------------|--|--------------------|
| | UNIT BOUNDARY | | SETTING BOUNDARY | | EXISTING SPECIFIED ROAD | | PROPOSED SPECIFIED ROAD | | PROPOSED TEMPORARY ROAD | | HARVESTED UNIT | | UNIT HARVESTED BEFORE TTRA | | STREAM - CLASS I | | STREAM - CLASS II | | STREAM - CLASS III |
| <p>100 Ft Contour Interval</p> <p>0 330 660 990 1320 Feet</p> <p>1 inch = 660 Feet</p> | | | | | | | | | | <p> SALTWATER</p> <p> 100' TTRA BUFFER</p> <p> LAKES</p> | | <p> FULL SUSPENSION YARDING</p> <p> PARTIAL SUSPENSION YARDING</p> | | | | | | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-7

Acres: 45 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 179 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 855 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I and II stream on south edge of unit - maintain riparian buffer.
Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Provide 100-foot buffer along stream on southern edge of unit (BMP 12.6).

B. Transportation System

Unit will be accessed by temporary spur off of specified road 6493.

C. Unit Design

Northern unit boundary is the surveyed boundary of the Tebenkof Wilderness Area.

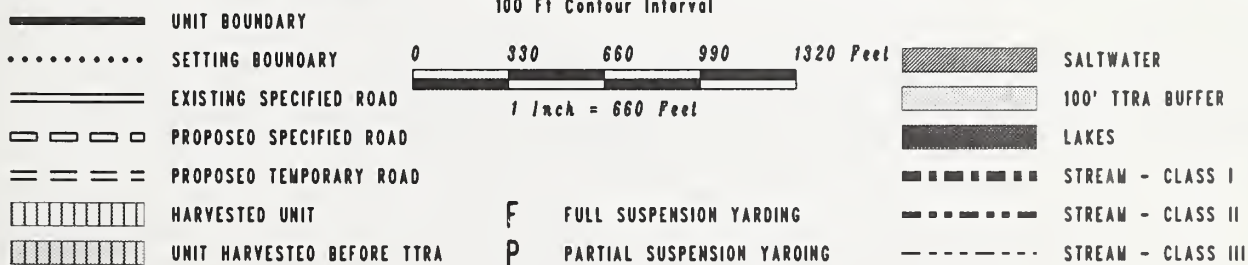
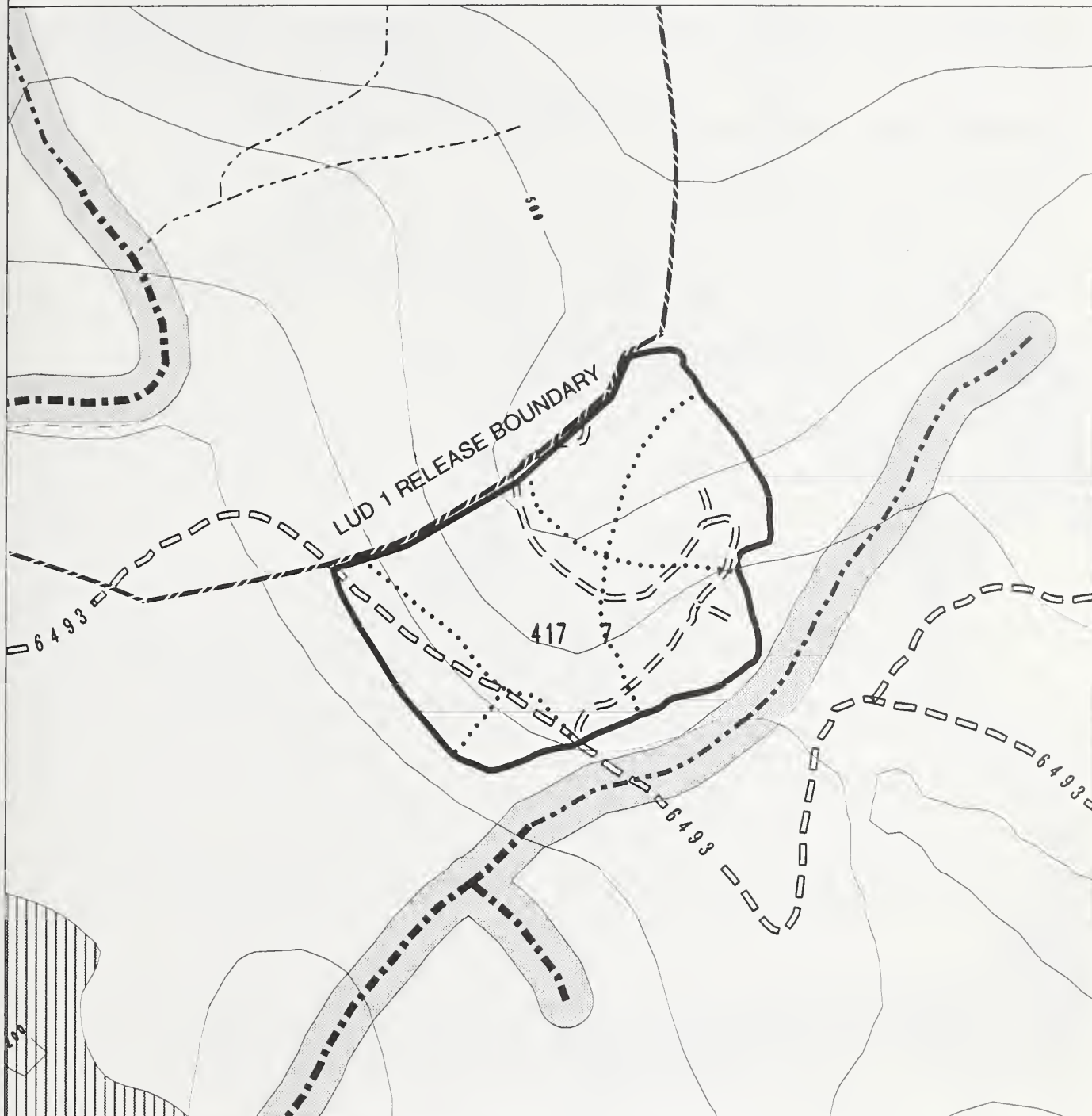
Unit designed for highlead yarding.

Moderate to high risk of windthrow along the north ridge boundary.

Buffer along the Class II is intended to be greater than 100 feet.

UNIT MAP

417 - 7



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-8

Acres: 26 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 177 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 491 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been substantially modified to conform to TTRA requirements.
Class I stream to the northwest - maintain riparian buffer.
Class III stream within unit - maintain stream channel stability.
Unit is visible from the canoe/kayak portage to Alecks Lake, as well as No Name Bay - meet VQO of Partial Retention.
Unit located near beach - maintain buffer.
Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.
2. Aquatic Habitat:
Provide 100-foot buffer on stream near the west boundary of unit (BMP 12.6).
Class III stream in center of unit will be protected by contract provision B6.5c (BMP 13.16 E5, E9).
3. Wildlife Habitat:
Maintain 500-foot buffer between unit and beach.
4. Visuals:
Area gently sloping with variety in the landscape. Views from No Name are at an oblique angle.

B. Transportation System

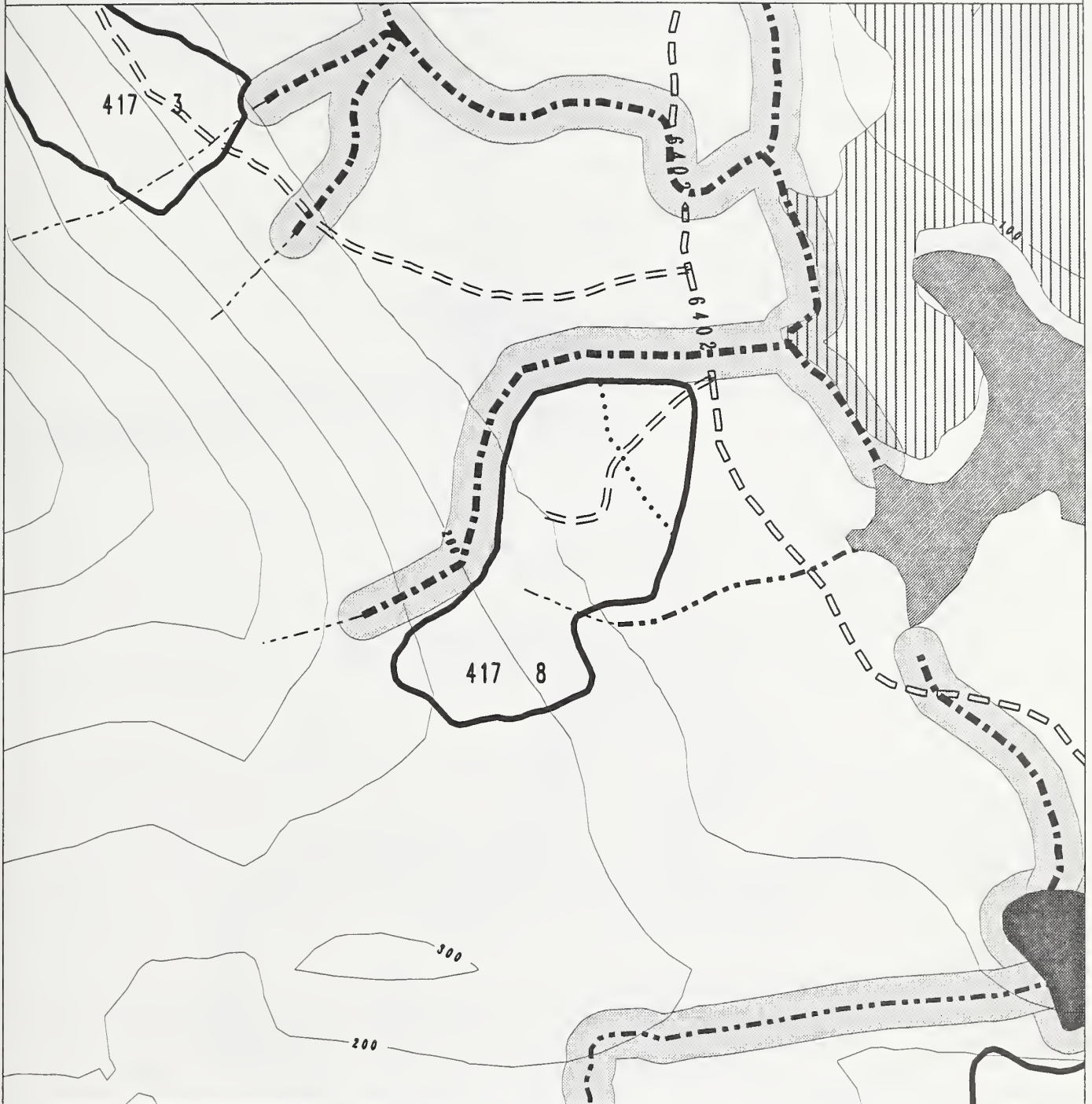
Temporary spur up ridge. Minimize impacts and development of junction with the mainline (specified) road. The mainline will become the preferred canoe/kayak portage; the intent is to minimize visual impact of road's presence.

C. Unit Design

Northeast boundary follows muskeg. Unit's small size and orientation meet the visual objective.
Northwest boundary is topographically located to reduce the impact from winds.

UNIT MAP

417 - 8



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-10

Acres: 20 Alternative: 4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 177 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 440 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I stream near southern boundary - maintain riparian buffer.

Small lake located north of unit boundary - maintain forested buffer between lake and harvest unit.

Wetlands located southeast of unit - provide buffer.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along Class I stream to the south and the Class II stream along the northwestern boundary (BMP 12.6).

Maintain 100-foot buffer along lake located north of unit boundary (BMP 12.6).

3. Wetlands:

Protect wetlands adjacent to southeastern unit boundary by application of BMP 13.15.

B. Transportation System

Unit accessed by temporary spur from road 6402.

C. Unit Design

Unit is designed to avoid wetlands.

Northern boundary is afforded topographic protection from southeastern winds.

Buffers along the Class I and II streams are intended to be greater than 100 feet in width.

UNIT MAP

417 - 10



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDOING
- P PARTIAL SUSPENSION YARDOING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-11

Acres: 41 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 176 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 20 MBF/Acre Total Net Unit Volume: 839 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I and II stream near unit boundary - maintain riparian buffer.

Class III stream within unit - maintain stream channel stability.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer on the Class I and II stream (BMP 12.6).

Class III stream flowing north in the west end of unit will be protected by contract provision B6.5b (BMP 13.16 E5, E9, E11).

B. Transportation System

Unit is accessed by a temporary spur off of specified road 6402.

C. Unit Boundary

Northern boundary borders meadow area which will provide protection from windthrow.

UNIT MAP

417 - 11



UNIT BOUNDARY		100 Ft Contour Interval			
SETTING BOUNDARY				SALTWATER	
EXISTING SPECIFIED ROAD		1 inch = 660 Feet		100' TTRA BUFFER	
PROPOSED SPECIFIED ROAD				LAKES	
PROPOSED TEMPORARY ROAD				STREAM - CLASS I	
HARVESTED UNIT		F FULL SUSPENSION YARDING		STREAM - CLASS II	
UNIT HARVESTED BEFORE TTRA		P PARTIAL SUSPENSION YARDING		STREAM - CLASS III	



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-12

Acres: 11 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 177 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 242 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II stream north of unit - maintain riparian buffer.

Unit is seen from salt water - meets the VQO of Modification.

Unit located near beach - maintain buffer.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer on Class II stream north of unit (BMP 12.6).

3. Wildlife Habitat:

Maintain a 500-foot beach fringe buffer for wildlife travel corridors.

4. Visuals:

Landscape is viewed at a skewed angle from No Name Bay and due to small size and location, meets the VQO.

B. Transportation System

Specified road 6402 accesses unit.

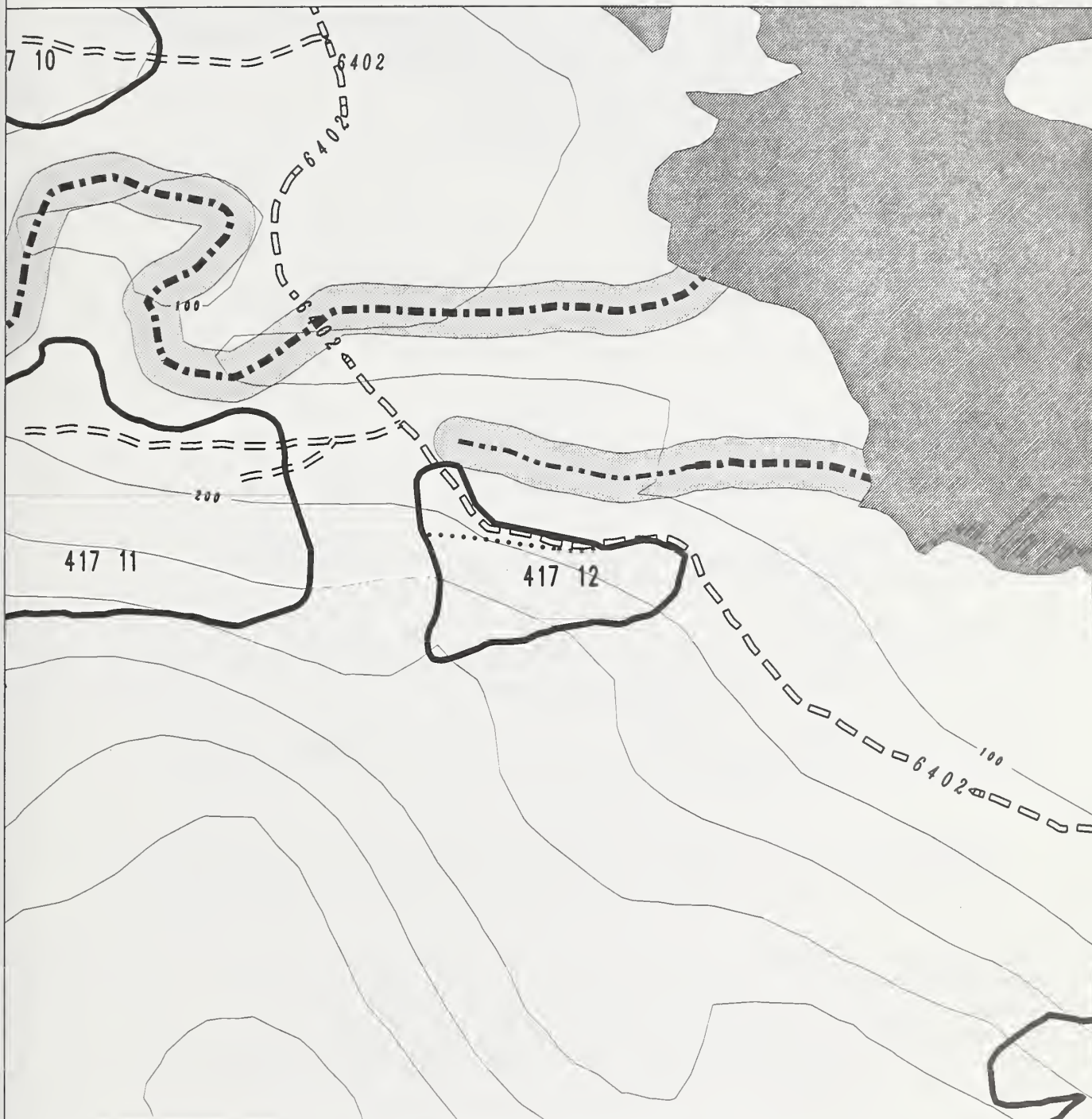
C. Unit Design

Northern boundary follows road.

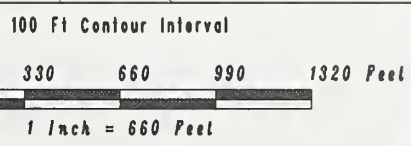
Northern boundary borders scrub timber. Buffer is expected to be windfirm.

UNIT MAP

417 - 12



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-13

Acres: 54 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 33 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 25 MBF/Acre Total Net Unit Volume: 1,333 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Unit is visible to users of No Name Bay - meet VQO of Modification.

Class III streams within unit - maintain stream channel stability.

Unit located near beach - maintain beach fringe habitat.

Moderately unstable soils in southern portion of unit - maintain soil stability.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

The Class III streams will be protected under contract provision B6.5c (BMP 13.16 E5, E9, E10).

3. Wildlife Habitat:

Maintain beach fringe habitat buffer along northern tip of unit for wildlife.

4. Visuals:

Landscape is steeply sloped, incised, highly evident in the middle ground and provides a backdrop to the south side of No Name Bay.

B. Transportation System

Road 6402 runs along the bottom of the unit. Three short spurs are needed. Coordinate turnout location with spur junctions.

Due to unit's high visibility, limit development of rock pits within the unit. If no other options exist, pit should be turned and screened from sight of No Name Bay.

C. Unit Design

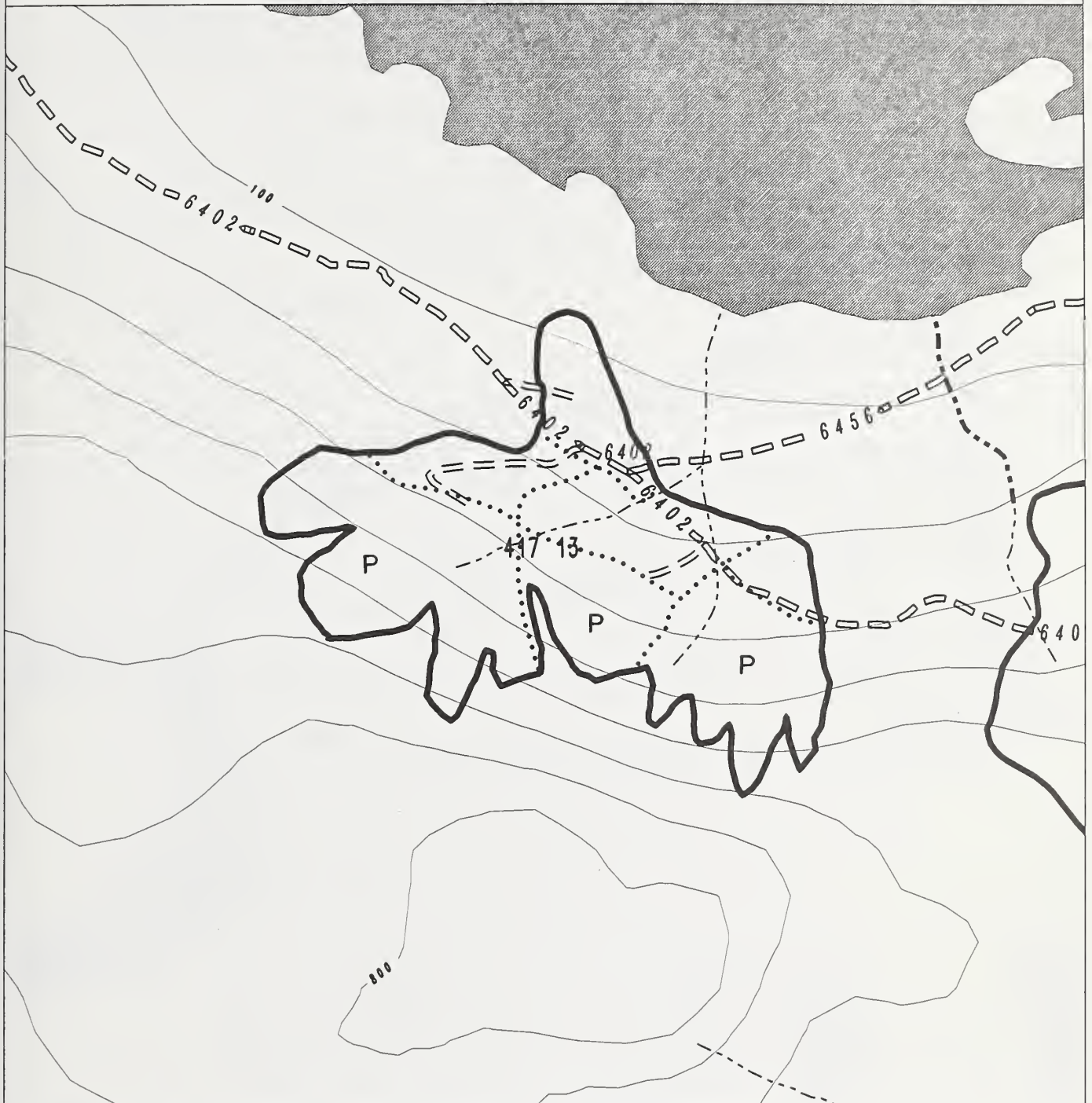
Unit is designed to take advantage of slope and vegetative features in the area. The irregular southern boundary is intended to soften the visual impact of the backline in order to meet the VQO of modification. Reserve tree areas are located between yarding corridors and extend to backline of unit.

Partial suspension is required over southern portion of unit to protect soils.

Unit is on the leeward side of the hill and sheltered from the winds.

UNIT MAP

417 - 13



	UNIT BOUNDARY	100 Ft Contour Interval		SALTWATER
	SETTING BOUNDARY	0 330 660 990 1320 Feet		100' TTRA BUFFER
	EXISTING SPECIFIED ROAD	1 inch = 660 Feet		LAKES
	PROPOSED SPECIFIED ROAD			STREAM - CLASS I
	PROPOSED TEMPORARY ROAD			STREAM - CLASS II
	HARVESTED UNIT	F FULL SUSPENSION YARDING		STREAM - CLASS III
	UNIT HARVESTED BEFORE TTRA	P PARTIAL SUSPENSION YARDING		

NORTH AND EAST KUIU UNIT PLAN

UNIT 417-14

Acres: 30 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 32 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 20 MBF/Acre Total Net Unit Volume: 606 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Buffering the Class II stream to conform to TTRA requirements split the original unit into two separate units. The western two settings have been incorporated into Unit 417-22. Class II stream north of unit - maintain riparian buffer. Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer on Class II stream (BMP 12.6).

B. Transportation System

Specified roads 6402 and 6488 are proposed along the lower edge of unit.

C. Unit Design

Stream buffer along the northern boundary is afforded topographic protection from the wind by the intervening winds.

UNIT MAP

417 - 14



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-15

Acres: 49 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 231 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 907 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II streams near the western and northern boundaries - maintain riparian buffers.

Class III stream within unit - maintain stream channel stability.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer on the Class II streams (BMP 12.6).

Maintain bank stability on Class III stream flowing northwest out of center of unit by contract provision B6.5b (BMP 13.16 E5, E9, E11).

Splitlining is planned.

B. Transportation System

Specified road 6488 is proposed along the south side of unit. Temporary spur roads are planned.

C. Unit Design

Unit is located on the leeward side of ridge. Northern unit boundary is adjacent to scrub timber affording protection from winds. Western stream buffer is parallel to the wind direction.

UNIT MAP

417 - 15



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-16

Acres: 58 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 232 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 1,024 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II streams west and south of unit - maintain riparian buffer.

Lake southwest of unit - maintain wildlife travel corridor.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers along Class II streams (BMP 12.6).

3. Wildlife Habitat:

Maintain a 100-foot buffer along the lake to provide a wildlife corridor.

B. Transportation System

Unit is accessed by temporary spurs off of roads 6488 and 6457.

C. Unit Design

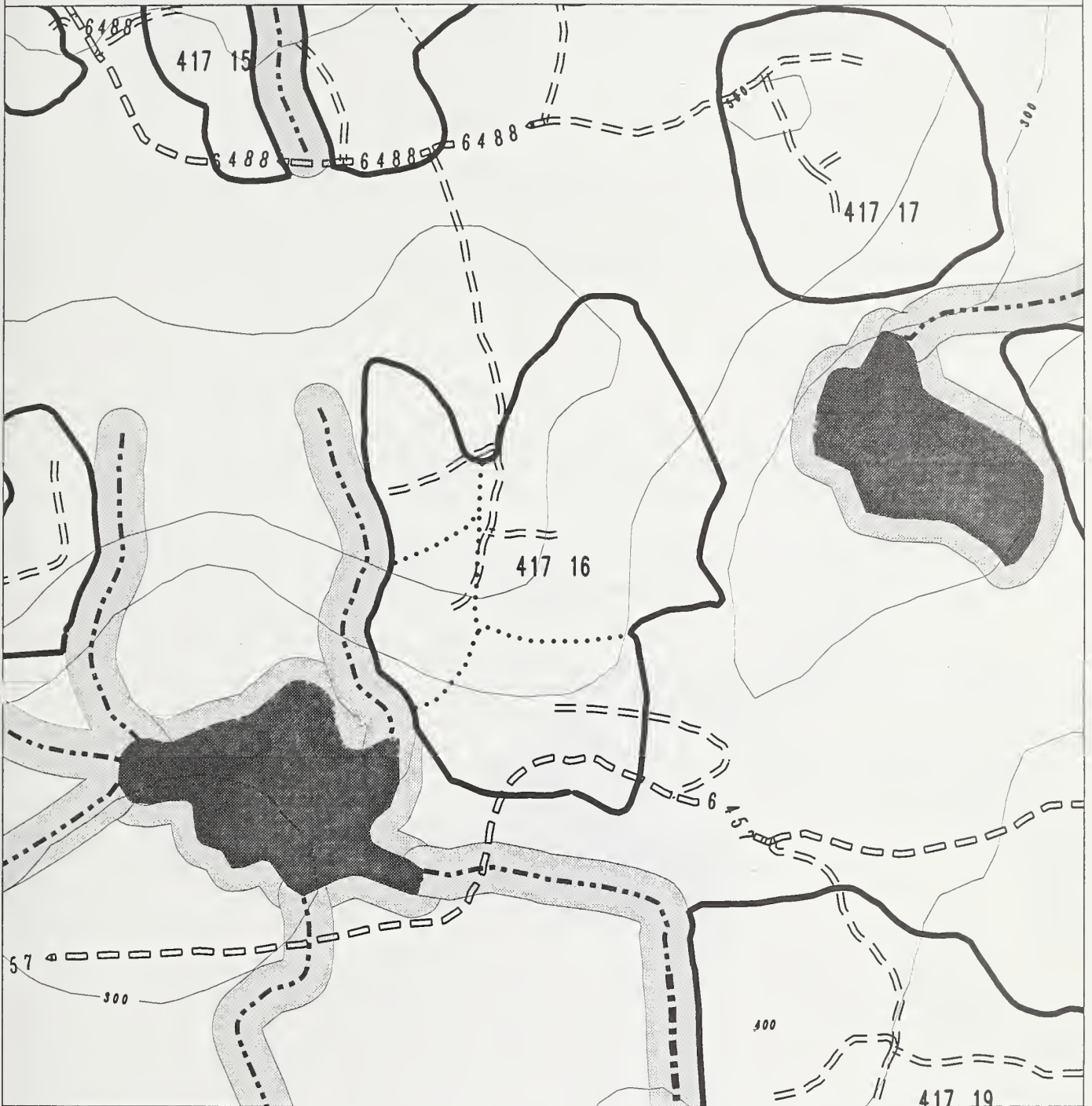
Chance of windthrow along the stream buffer west of unit.

Southwest setting was deleted to provide separation to unit 417-19.

Western setting was deleted to provide 100-foot buffer for Class II stream.

UNIT MAP

417 - 16



- | | | | | | |
|--|----------------------------|-------------------------|----------------------------|--|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 | 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | | | | LAKES |
| | PROPOSED SPECIFIED ROAD | 1 Inch = 660 Feet | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | | | STREAM - CLASS II |
| | HARVESTED UNIT | F | FULL SUSPENSION YARDING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | P | PARTIAL SUSPENSION YARDING | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-17

Acres: 29 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 231 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 16 MBF/Acre Total Net Unit Volume: 458 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit originally laid out in 1979. The original unit has been split into two units to provide protection necessary to meet TTRA requirements. The other unit is 417-21.

Class II stream and lake located south of unit - maintain riparian buffer. Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Unit is designed to maintain a 100-foot buffer on Class II stream and lake located south of the unit (BMP 12.6).

B. Transportation System

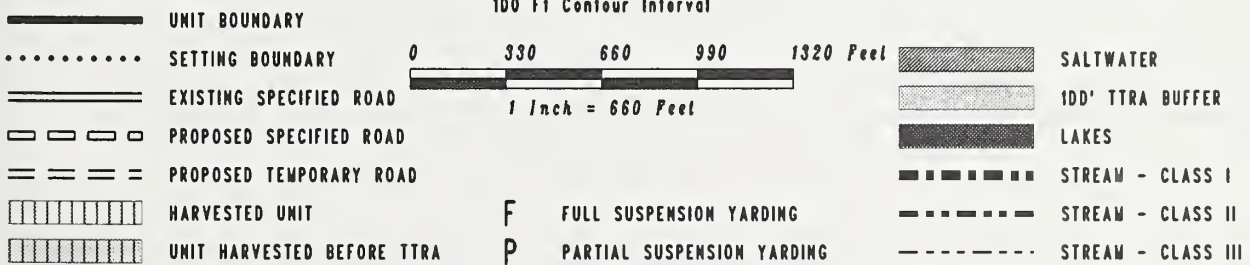
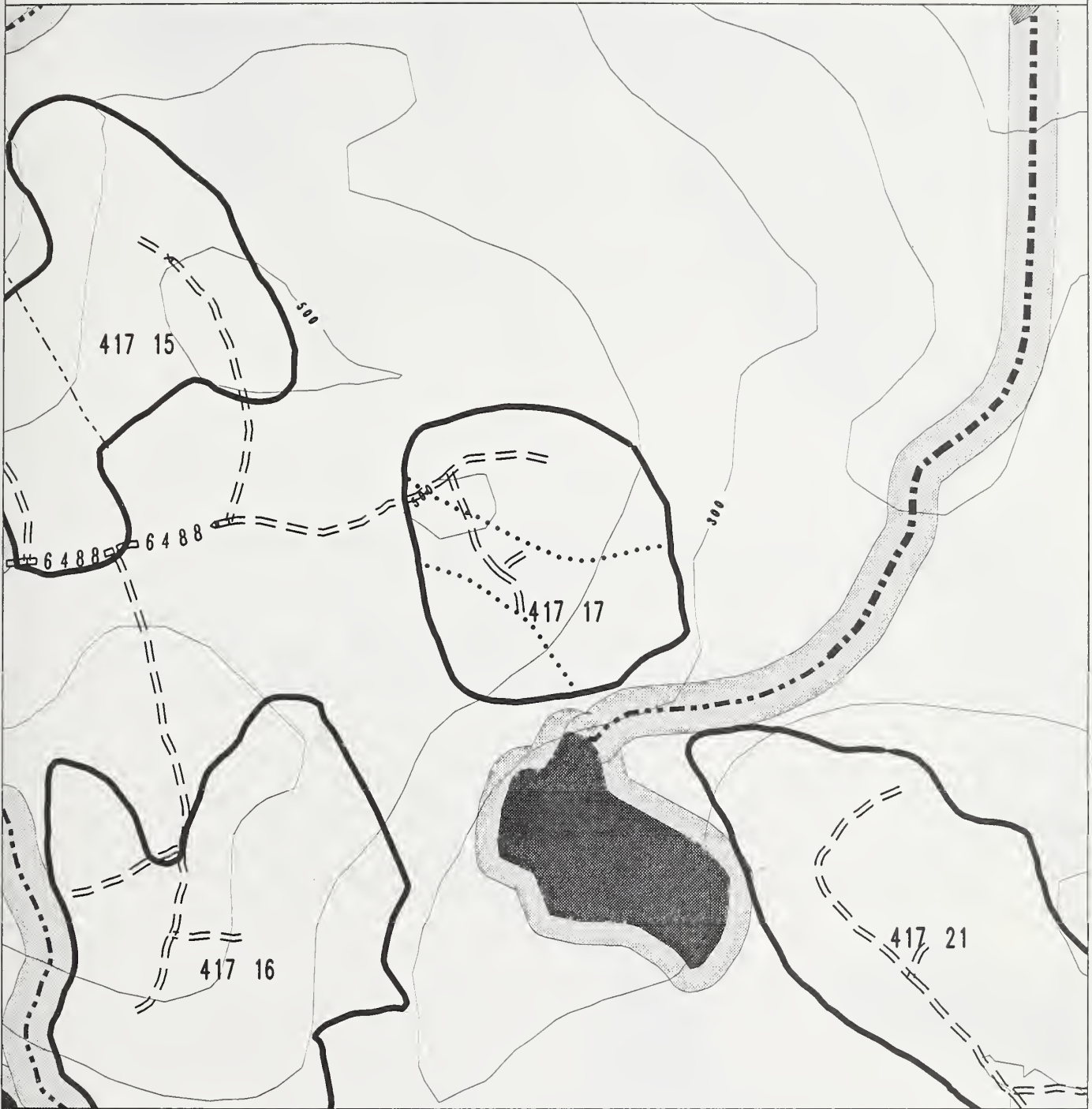
A spur road off of specified road 6488 will access the unit.

C. Unit design

North and west boundaries are located along scrub timber to provide protection from windthrow.

UNIT MAP

417 - 17



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-18

Acres: 72 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 73 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 25 MBF/Acre Total Net Unit Volume: 1,778 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class II stream in the southwest half of the unit runs directly into saltwater - maintain stream channel stability.

Class II stream adjacent to northwestern edge of the unit - maintain riparian buffer.

Unit is visible from salt water - meet Modification VQ0.

Important wildlife habitat adjacent to salt water - maintain forested beach fringe.

* winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class II stream within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Full suspension is planned.

Maintain a 100-foot buffer on the Class II stream northwest of unit (BMP 12.6).

3. Wildlife Habitat:

Maintain a buffer between unit and the beaches for wildlife travel.

4. Visuals:

Landscape comprised of a low-lying ridge (approx. 400-foot elevation) and is seen in the middle ground as approaching No Name Bay.

B. Transportation System

Specified road 6457 ends at west boundary. Temporary spurs are proposed to access unit.

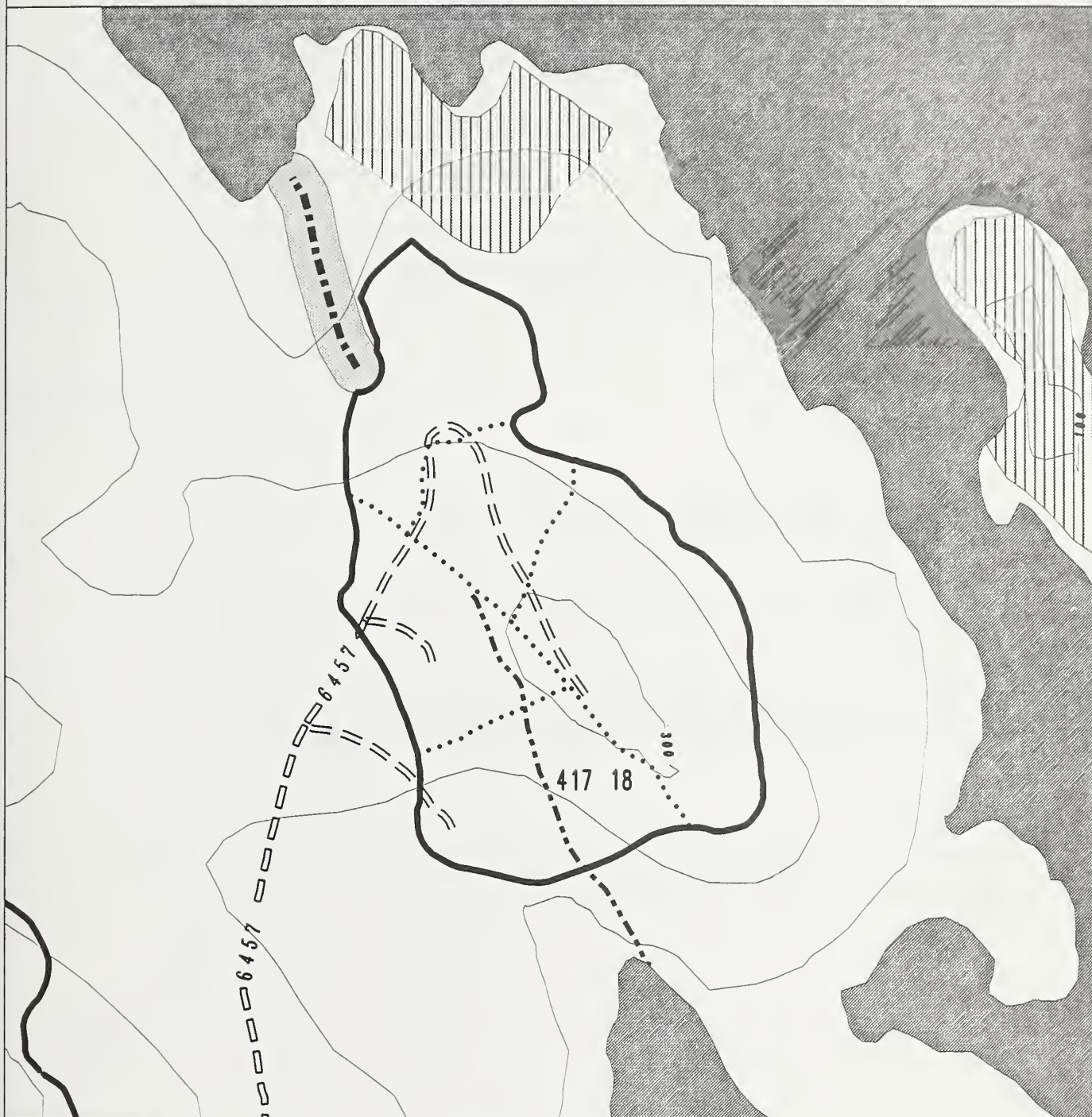
C. Unit Boundary

Unit is designed to provide long-term uniform texture so there will be no harsh edge, creating unnatural lines on this ridge, increasing the long term visual impact. Unit will meet the VQ0 of Modification in five to seven years.

Unit boundaries are adjacent to scrub timber and old harvest unit in order to provide windfirm boundaries. Northern boundary is located on leeward side of hill.

UNIT MAP

417 - 18



100 Ft Contour Interval
0 330 660 990 1320 Feet
1 inch = 660 Feet
F FULL SUSPENSION YAROING
P PARTIAL SUSPENSION YAROING

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

F FULL SUSPENSION YAROING
P PARTIAL SUSPENSION YAROING

SALTWATER
100' TTRA BUFFER
LAKES
STREAM - CLASS I
STREAM - CLASS II
STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-19

Acres: 48 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 232 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 1,011 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I and II streams adjacent to unit - maintain riparian buffers.

South and east winds predominate - maintain windfirmness.

There may be potential fish enhancement opportunities(KV Project) by constructing a fish ladder on Fault Creek.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers along all Class I and II streams (BMP 12.6). Conduct feasibility studies for a possible fish ladder on Fault Creek.

B. Transportation System

Unit will be accessed by spur roads. Main spur will begin from specified road 6457.

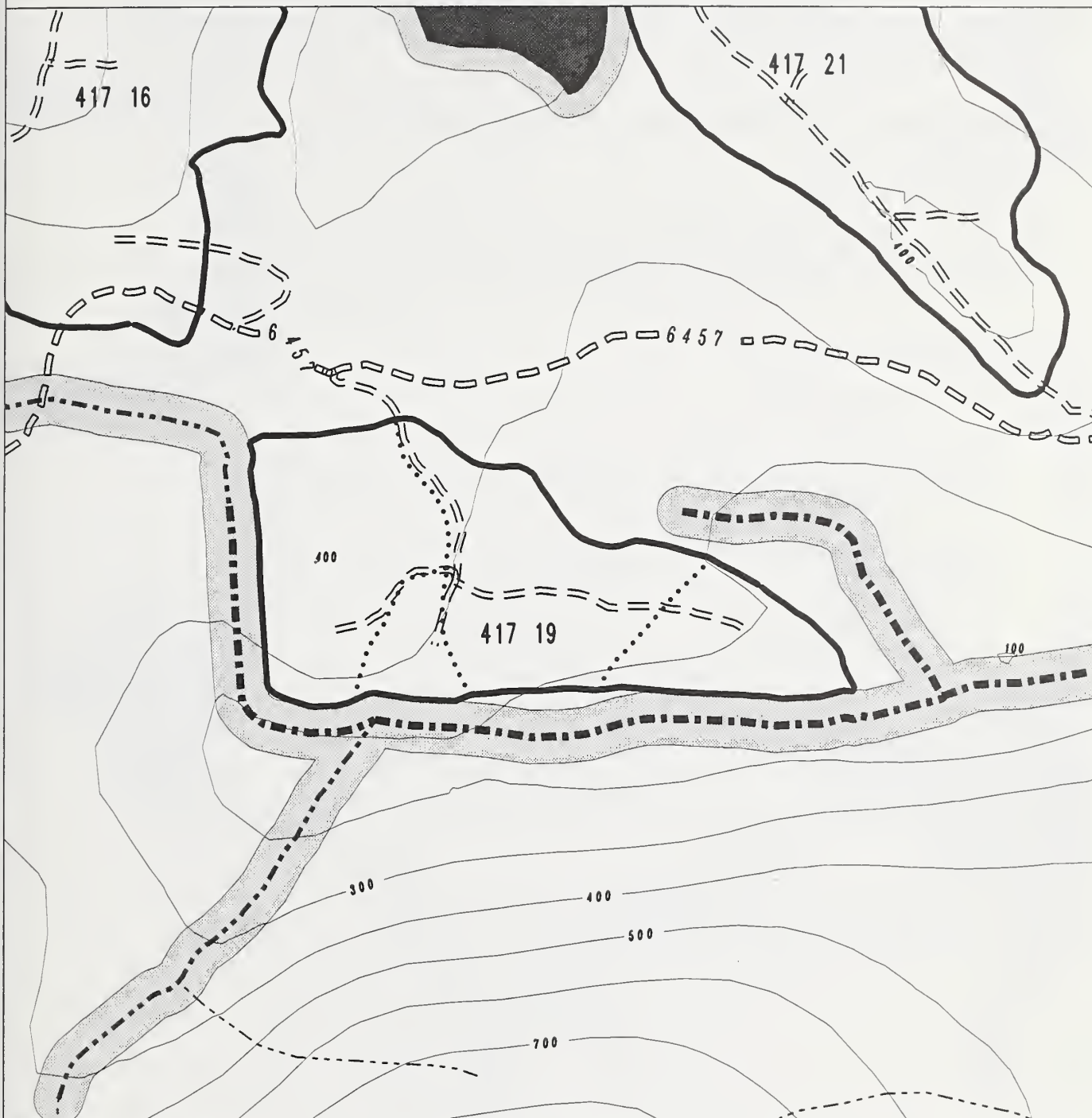
C. Unit Design

Unit designed for shovel yarding.

North and south boundaries are parallel to prevailing wind. The western boundary should be taken to just over the lip of the hill and still maintain a 100-foot buffer to minimize windthrow.

UNIT MAP

417 - 19



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-20

Acres: 78 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 232 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 1,293 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II streams located adjacent to unit - maintain riparian buffers.

Lakes located southwest and northwest of unit - maintain buffer.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers along all Class II streams and the lakes (BMP 12.6).

3. Wildlife Habitat:

Maintain a 100 -foot buffer along lake for a wildlife travel corridor.

B. Transportation System

Specified road 6402 runs along the west boundary. One spur road will take off of 6402 and run through the middle of the unit.

C. Unit Design

Western boundary is located along road to maintain the lake buffers.

North, west, and south boundaries are located along scrub timber which provides protection from windthrow.

UNIT MAP

417 - 20



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-21

Acres: 52 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 231 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 16 MBF/Acre Total Net Unit Volume: 838 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

This unit has been laid out previously. Unit has been modified to conform to TTRA requirements.

Class II stream northwest of unit - maintain riparian buffer.

Lake near northwestern boundary - maintain wildlife travel corridor.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along the lake and Class II stream (BMP 12.6).

3. Wildlife Habitat:

Maintain a 100-foot buffer along the lake for a wildlife travel corridor.

B. Transportation System

Unit will be accessed by spur roads off of specified road 6457.

C. Unit Design

Western boundary is on leeward side of ridge to provide some topographic protection from windthrow.

UNIT MAP

417 - 21



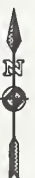
- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-22

Acres: 56 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 32 USGS 1/4 QUAD MAP #: PBG B6 NW
Net Vol/Ac: 30 MBF/Acre Total Net Unit Volume: 1,704 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II stream near southeast corner of unit - maintain riparian buffer. Class II stream to the northwest flows directly into saltwater - maintain stream channel stability.

Unit will be visible from No Name Bay - meet the inventoried VQOs of Modification and Maximum Modification.

Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along Class II stream near southeast unit boundary (BMP 12.6).

Class II stream in northwest portion of unit will be protected by contract provision B6.5c (BMP 13.16 E5, E9).

3. Visuals:

Landscape is steeply sloped, incised, highly evident in the middle ground and provides a backdrop to the south side of No Name Bay.

B. Transportation System

Check possibility of a steeper grade, to avoid full bench west of unit.

Limit rock source development within northern portion of unit. Specified road 6402 runs through northern portion of unit and continues down the eastern boundary. Spur roads are proposed to access the unit.

C. Unit Design

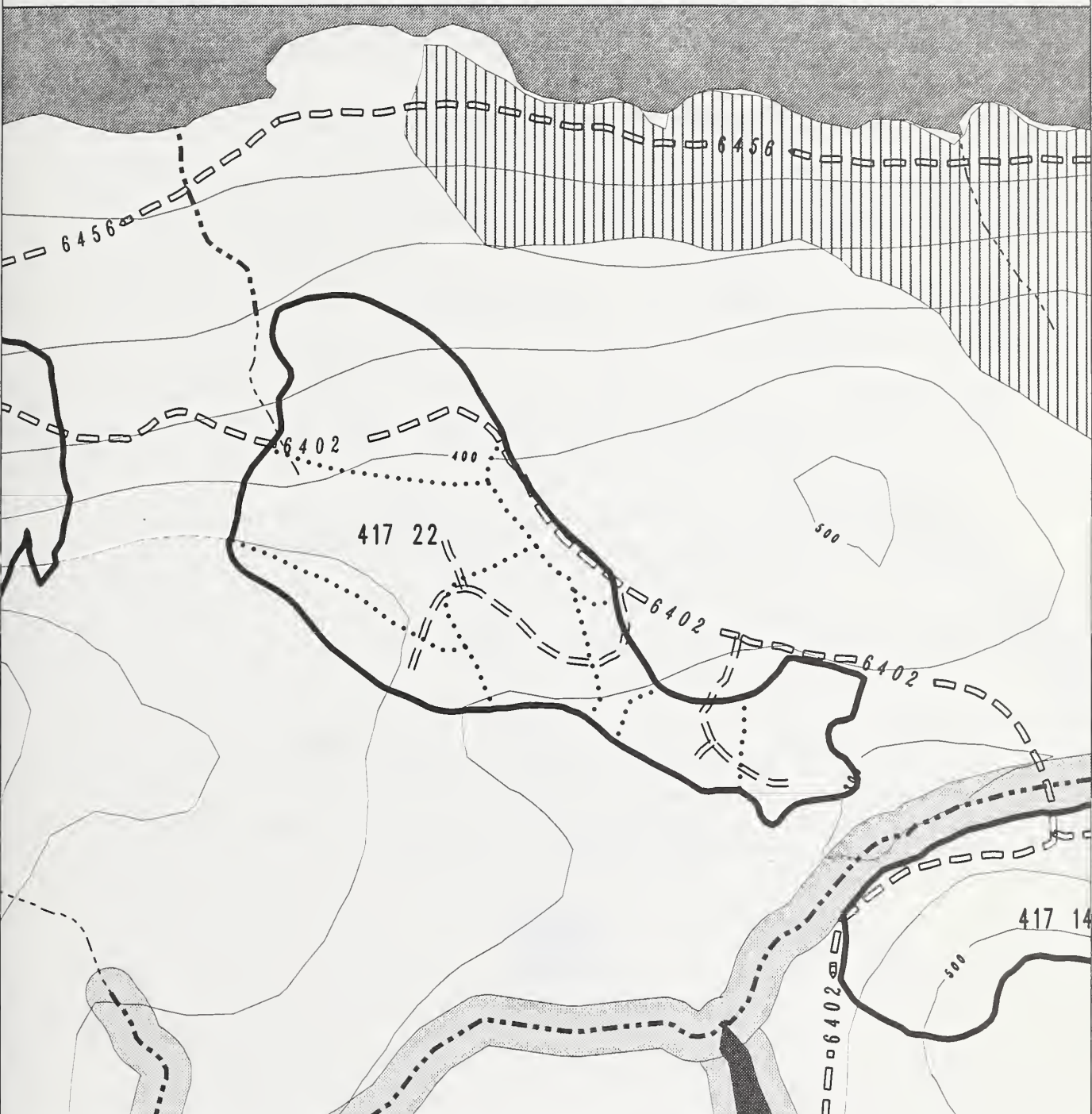
The northern edge of this unit is intended to drape over the landscape in an irregular, undulating manner to meet the visual objective.

Northern boundary extends to leeward side of ridge, maintaining windfirmness.

Buffer along the Class II is intended to be greater than 100 feet.

UNIT MAP

417 - 22



- | | | | | | |
|--|----------------------------|-------------------------|----------------------------|--|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 | 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | | | | LAKES |
| | PROPOSED SPECIFIED ROAD | 1 inch = 660 Feet | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | FULL SUSPENSION YARDING | | STREAM - CLASS II |
| | HARVESTED UNIT | | PARTIAL SUSPENSION YARDING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | | | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 417-24

Acres: 72 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 228 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1,553 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is seen from No Name Bay - meet VQO of Modification.
Class III stream in unit - maintain stream channel stability.
Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration,
precommercial thin to maintain healthy stand.
2. Aquatic Habitat:
Class II stream within unit will be protected by contract provision
B6.5b (BMP 13.16, E5, E9, E11). Full suspension is planned.

B. Transportation System

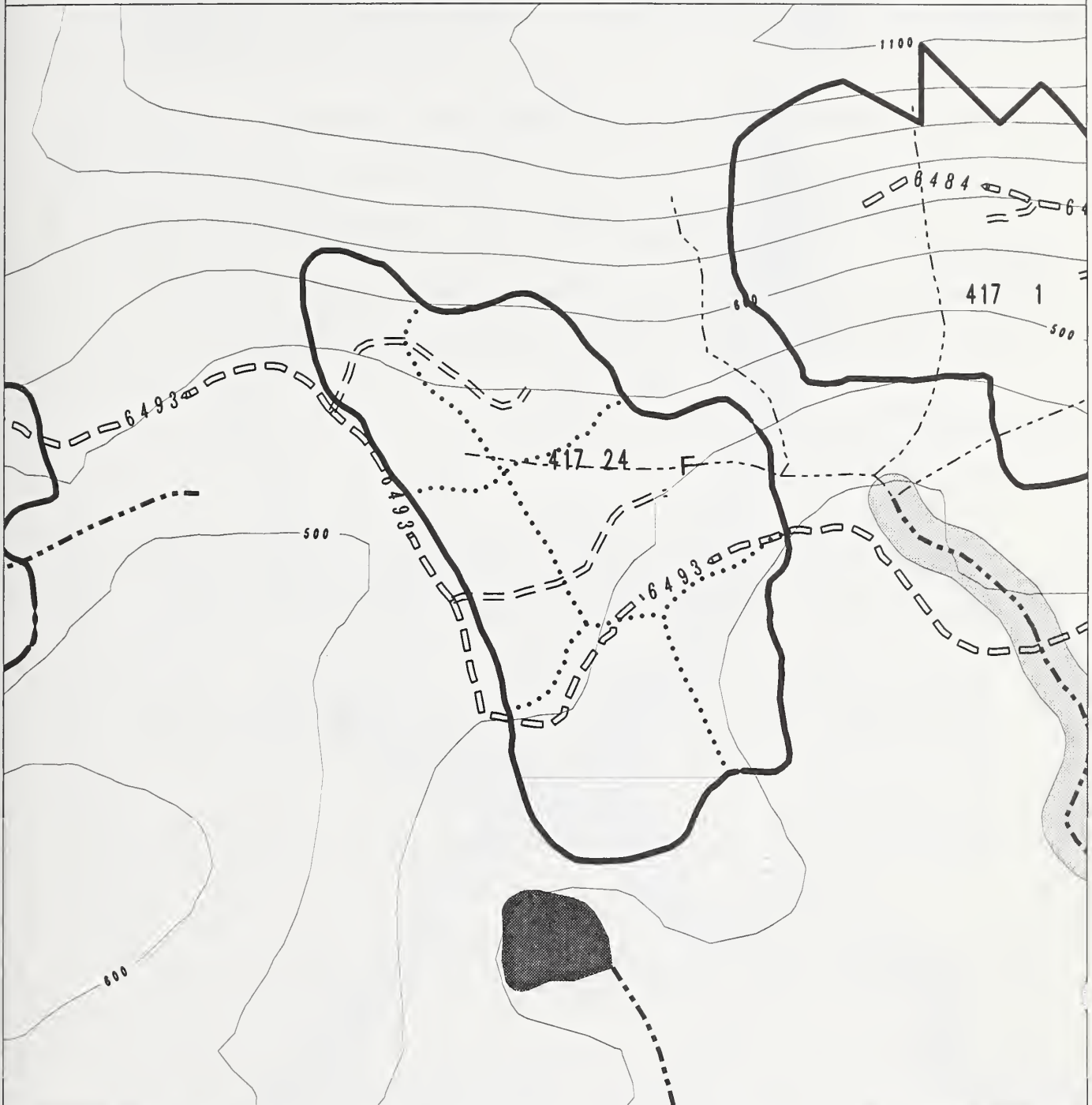
Specified road 6493 is proposed to access unit.

C. Unit Design

The irregular, undulating northern boundary has been designed to meet the Modification VQO as seen from No Name Bay. Lower two thirds of the unit will not be evident from No Name Bay.
Timber along the upper slope is expected to retain windfirmness naturally developed against winds perpendicular to the slope.

UNIT MAP

417 - 24



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-1

Acres: 34 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 38 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 23 MBF/Acre Total Net Unit Volume: 785 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Boundary has been modified to meet TTRA requirements.

Class I streams on east and south side of unit - maintain riparian buffers.
Large intermittent stream running through unit - maintain stream channel stability.

Lake northeast of unit - maintain travel corridor.

South and southeast winds predominate - maintain windfirmness.

Alluvial floodplain sites within unit - ensure conifer regeneration.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand. Minimize surface disturbance to avoid alder establishment. Some planting may be necessary to reduce competitive edge of salmonberry.

2. Aquatic Habitat:

Maintain a minimum of a 100-foot buffer on Class I streams on east and south sides of unit (BMP 12.6). Intermittent stream running through unit will be protected by splitlining under contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Wildlife Habitat:

Maintain a 200-foot buffer between unit and lake to protect wildlife habitat (BMP 12.6)

B. Transportation System

Unit will be accessed by temporary spur. All stream crossing structures will be removed at completion of harvest.

C. Unit Design

North and west unit boundaries are located along scrub timber which is likely to be wind firm. The buffer to the south of the unit and the lower half of the buffer on the east side will not be disturbed on the side facing the SE winds, so should retain natural windfirmness. The upper half of the buffer on the east side will have units on both sides, but will be protected by the ridge to the east. The lake buffer should also be protected by this ridge. The buffers along both Class I's are intended to be extended width, greater than 100 feet.

Partial suspension is required.

Shovel logging is recommended, as it will minimize soil and streambank disturbance (BMP 13.7 and 13.8).

UNIT MAP

418 - 1



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-2

Acres: 75 Alternative: 3.4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 38 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 20 MBF/Acre Total Net Unit Volume: 1,533 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Changes have been made.
Three Class III streams running through unit and a fourth along southern boundary outside of unit - maintain stream channel stability.
Area above the unit can be seen from saltwater - meet VQO of Partial Retention.
Southwest and southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.
2. Aquatic Habitat:
Two Class III streams running east and west through unit will be protected by splitlining under contract provision B6.5b (BMP 13.16 E5, E9 and E11).
Class III stream in northeastern corner of unit will be protected under contract provision B6.5c (BMP E5, E9). Partial suspension is planned.
3. Visuals:
Unit is part of a unique landscape with alpine evident in the middle ground seen from the Salt Lagoon and Seclusion Harbor.

B. Transportation System

Specified road 6402 will run through unit. A temporary spur road will be needed to reach the landing for the north setting.

C. Unit Design

Backline of southern two settings located low on the slope and has been tapered to meet the visual objective.
Southern boundary located along the slope break above the Class III stream outside of unit.
Long narrow unit shape parallel with up canyon southeast winds presents the least exposure to windthrow. A portion of the northern boundary is located adjacent to a muskeg providing protection from windthrow.

UNIT MAP

418 - 2



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-4

Acres: 65 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 180 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1,412 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Southern portion of unit can be seen from saltwater - meet VQO of Partial Retention.

Class II stream along north setting - maintain riparian buffer.

Southwest-northeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot riparian buffer between unit and Class II stream to the east (BMP 12.6).

3. Visuals:

Landform viewed from Salt Lagoon in the background distance at a skewed angle: low lying ridge to the southwest (500-foot elevation) blocks much of the view.

B. Transportation System

A temporary spur road will access unit. Gentle topography will allow for a "T" junction. Haul can be to either Rowan or No Name.

C. Unit Design

Unit sits low on landform and will be subordinate to the characteristic landscape meeting the VQO of Partial Retention.

History of windthrow on the northern and southern ends of unit. Southwest boundary of unit is at some risk of windthrow.

West boundary of the unit parallel the prevailing winds, minimizing risk of windthrow. East boundary is located adjacent to muskeg.

UNIT MAP

418 - 4

WILDERNESS BOUNDARY



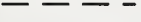
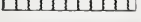
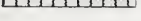
418 14

418 5



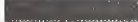



100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

-  UNIT BOUNDARY
-  SETTING BOUNDARY
-  EXISTING SPECIFIED ROAD
-  PROPOSED SPECIFIED ROAD
-  PROPOSED TEMPORARY ROAD
-  HARVESTED UNIT
-  UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARNOING
- P PARTIAL SUSPENSION YARNOING

-  SALTWATER
-  100' TTRA BUFFER
-  LAKES
-  STREAM - CLASS I
-  STREAM - CLASS II
-  STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-5

Acres: 23 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 180 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 26 MBF/Acre Total Net Unit Volume: 607 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I streams on south and east sides of unit - maintain riparian buffer.
Alluvial soils along western edge of unit - ensure conifer regeneration.
Southwest-northeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.
Minimize soil disturbance to avoid alder establishment.

2. Aquatic Habitat:

Maintain a minimum of a 100-foot buffer (BMP 12.6) on Class I streams on south and east sides of unit.

B. Transportation System

Specified road 46202 will run through unit.

C. Unit Design

Partial suspension is required. Shovel yarding is recommended to minimize disturbance to alluvial soils in unit. (BMP 13.7 and 13.8)

Low elevation and ridge to the southwest provides some topographic protection from the southwest winds. Unit lies to the leeward side of the ridge to the northeast of the unit, providing shelter from the northeast winds.

Buffer along the Class I to the east is intended to be extended width, greater than 100 feet.

UNIT MAP

418 - 5



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-6

Acres: 85 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 38 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 1,582 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I stream and beaver pond along northeast boundary of unit - maintain riparian buffer.

Three Class III streams running through and along north boundary of unit - maintain stream channel stability.

Moderately unstable soils in unit - maintain soil stability.

Southeast winds predominate - maintain windfirmness.

There may be potential fish enhancement opportunities(KV Project) by constructing a fish ladder on Toenail Creek.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a minimum of a 100-foot buffer (BMP 12.6) along Class I and II streams to the north.

The Class III at the upper end of the Class II stream is protected by contract provision B6.5c (BMP 13.16 E5, E9).

The other two designated Class III streams within unit will be protected by splitlining under contract provision B6.5b (BMP 13.16 E5, E9 and E11).

Conduct feasibility studies for a possible fish ladder on Toenail Creek.

B. Transportation System

Road 6480 is specified to unit boundary at southeast corner of unit. Remaining roads are temporary spurs.

C. Unit Design

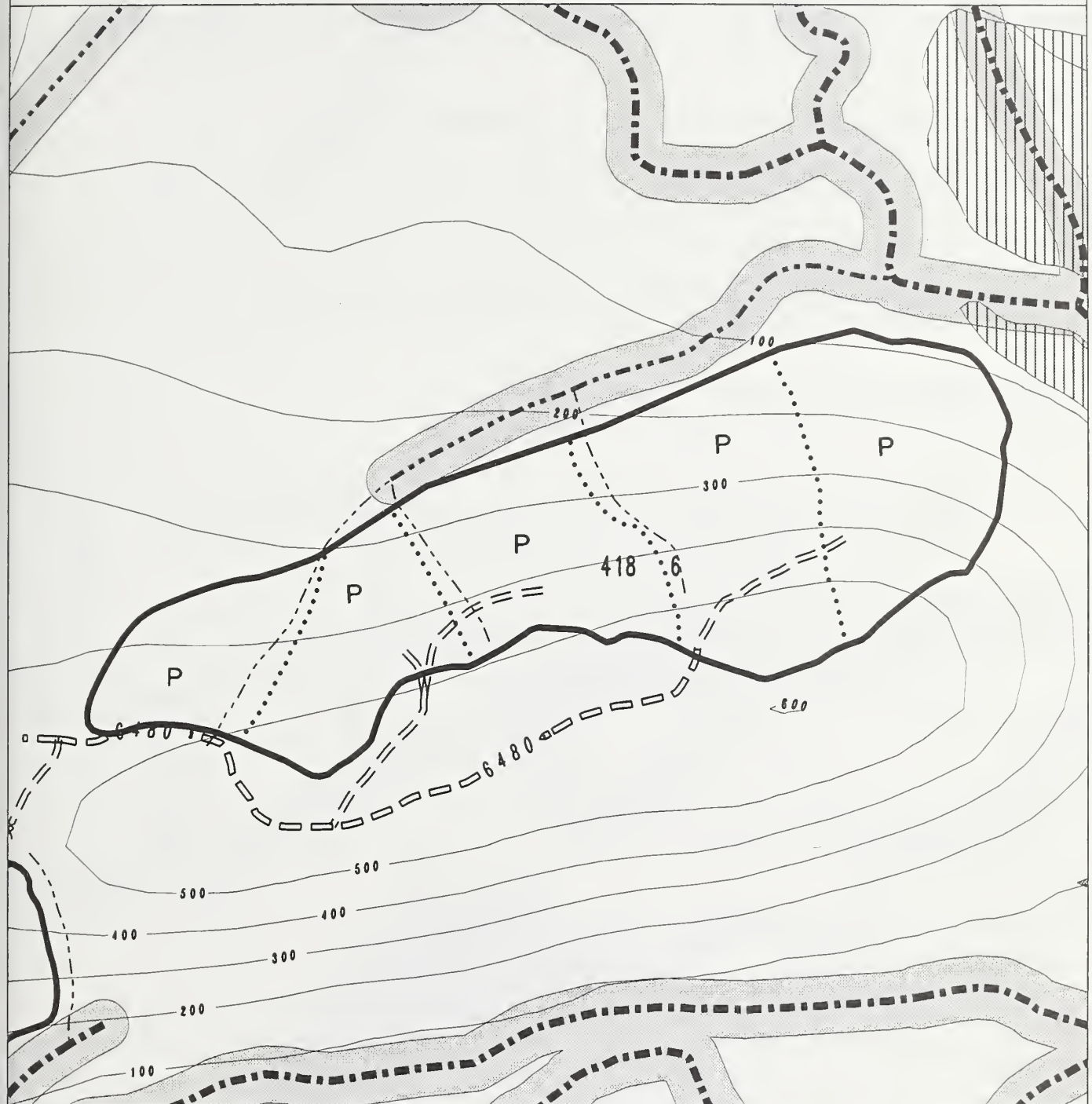
Class II stream is north boundary of eastern three settings.

Entire unit is designated for partial suspension for soil protection (BMP 13.9).

Class I stream buffer is close to parallel with southeast winds and is protected by ridge to the south. A similar buffer on the north side of the Class I stream has remained windfirm. The buffer along the Class I and a portion of the Class II is intended to be extended width, greater than 100 feet.

UNIT MAP

418 - 6



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-7

Acres: 31 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 38 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 25 MBF/Acre Total Net Unit Volume: 763 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Changes have been identified to conform to TTRA requirements.

Class I stream along south edge of unit - maintain riparian buffer.

Three Class III streams within or bordering unit - maintain stream channel stability.

Moderately unstable soils in unit - maintain soil stability.

Southwest and East winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer (BMP 12.6) on Class I stream south of unit.

Three Class III streams within or bordering unit will be protected by splitlining under contract provision B6.5b (BMP 13.16 E5, E9 and E11).

Locate landings to make sure logs are not yarded up streams (BMP 13.10).

B. Transportation System

Specified road 6480 runs along top of unit with two temporary spurs accessing landings in unit.

C. Unit Design

Lower boundary is along 100-foot buffer. Eastern boundary is adjacent to Class III stream.

Partial suspension is designated for soil protection (BMP 13.8).

West and north boundaries set on scrub timber. Buffer on south boundary is parallel with easterly winds and not disturbed on the south side so should retain natural windfirmness.

UNIT MAP

418 - 7



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-8

Acres: 30 Alternative: 3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 12, Photo# 180 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 642 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. No changes have been identified to conform to TTRA requirements.

Class III streams within and adjacent to unit - maintain stream channel stability.

Lake to northwest of unit - maintain wildlife corridor between unit and lake.

Southwest-northeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III streams will be protected by splitlining under contract provision B6.5b (BMP 13.16 E5, E9 and E11).

3. Wildlife Habitat:

Maintain a 200-foot minimum buffer between lake and unit to protect wildlife habitat (BMP 12.6).

B. Transportation System

Specified road 46202 will run to last landing in unit.

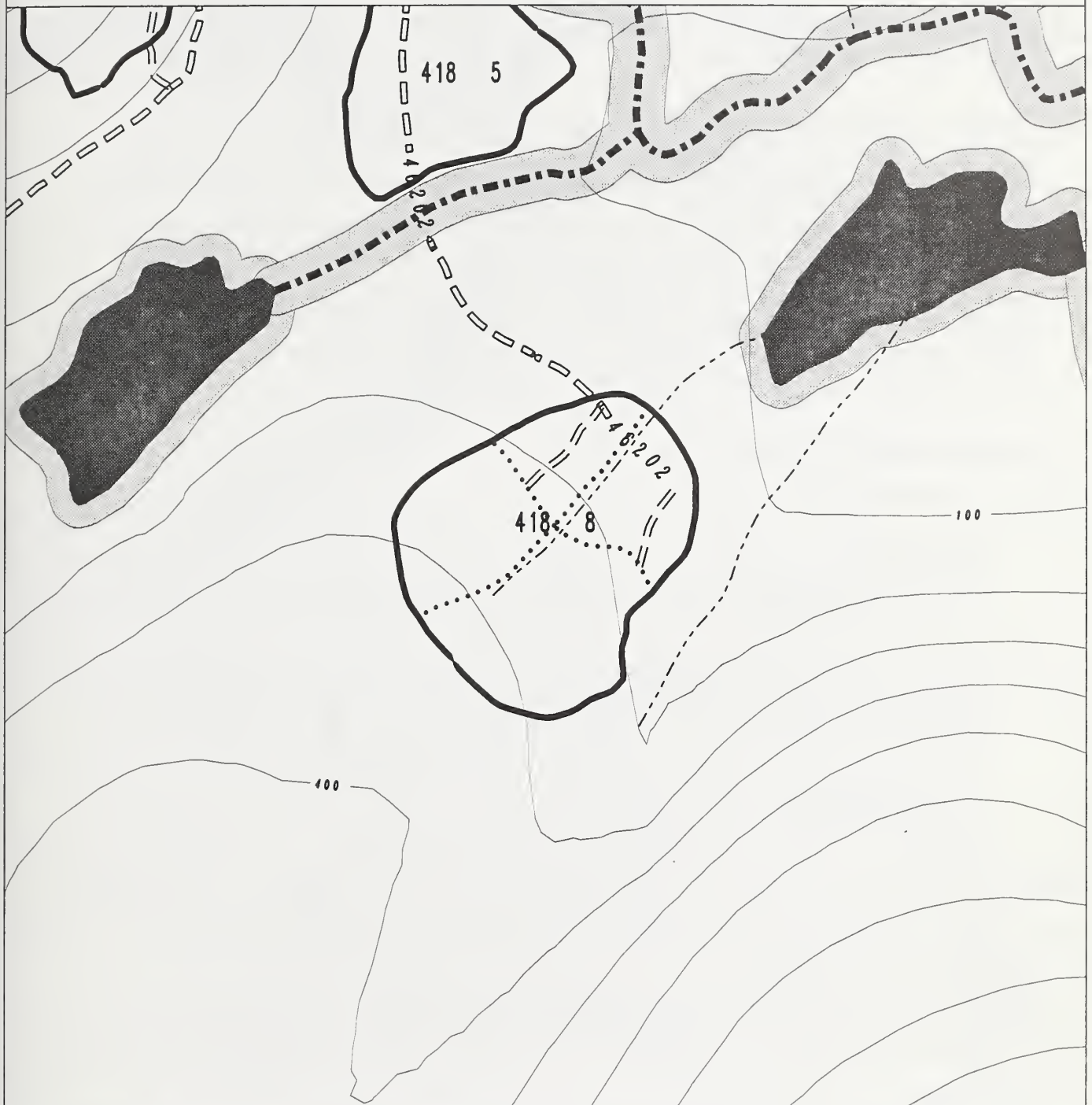
C. Unit Design

Proposed northeast boundary is approximately 400-feet from lake.

The lake buffer is somewhat protected from southwest winds by the ridge to the southwest. The southwest boundary is exposed to northeast winds and may be at risk from windthrow.

UNIT MAP

418 - 8



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-10

Acres: 78 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 37 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 1,804 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Changes have been identified to conform to TTRA requirements.

Class II stream runs along northwest boundary - maintain riparian buffer.

Class III stream runs along west boundary, two Class III streams run through unit - maintain stream channel stability.

Unit visible from head of Salt Lagoon - meet VQ0 of Modification.

Northeast winds predominate - maintain windfirmness.

Moderately unstable soils in unit - maintain soil stability.

Estuary habitat at head of Salt Lagoon - maintain habitat.

II. IMPLEMENTATION ACTIVITIES

Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer (BMP 12.6) on Class II stream north of unit.

Protect the two Class III streams in unit by splitlining under contract provision B6.5b (BMP 13.16 E5, E9, E11).

Locate landings so that logs are not yarded up streams (BMP 13.10).

3. Wildlife Habitat:

Maintain a 1,000-foot buffer around estuary habitat.

4. Visuals:

Landscape is visible from Salt Lagoon at an oblique angle in the middle ground distance and is partially screened by the ridge to the east.

B. Transportation System

Specified road 6493 runs parallel to unit to the south. Three short temporary spurs cross to the north side of the ridge accessing landings at the top of the unit.

C. Unit Design

Northwestern boundary is 100 feet from the Class II stream.

The west boundary will be located on the slope break above the Class III V-notch.

Lower boundary is located outside of the 1,000-foot estuary buffer.

The southern boundary takes advantage of natural topography, unit wraps over ridge and only upper third of unit will be visible in the middle ground. Unit meets the VQ0.

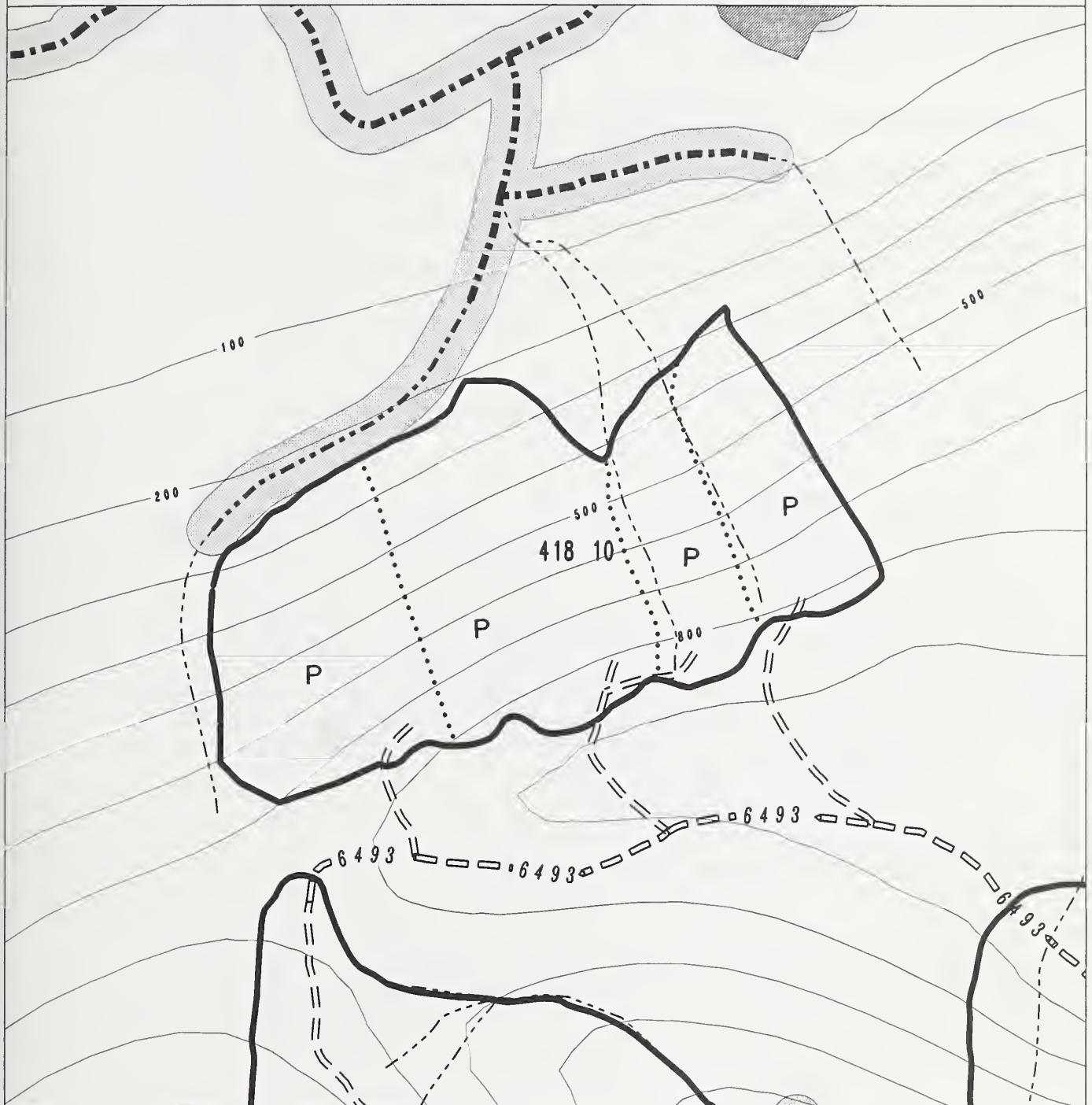
The Class II stream buffer is parallel to northeast winds that would funnel down Salt Lagoon and topographically screened by the ridge to the south.

The southwest corner of the unit is located in the ridge saddle on a windfirm boundary.

Partial suspension required on entire unit (BMP 13.8).

UNIT MAP

418 - 10



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-11

Acres: 81 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 37 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 1,692 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II streams adjacent to eastern unit boundary - maintain riparian buffer.

Class III streams within and adjacent to unit - maintain stream channel stability.

Moderately unstable soils in unit - maintain soil stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation Management:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Management:

Maintain 100-foot buffers along Class II streams (BMP 12.6).

Class III streams along the northern and southern boundaries will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

Eastern Class III stream within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

Western Class III stream within unit will be protected under contract provision B6.5c (BMP 13.16 E5, E9).

B. Transportation System:

Specified road 6493 ends at the unit boundary.

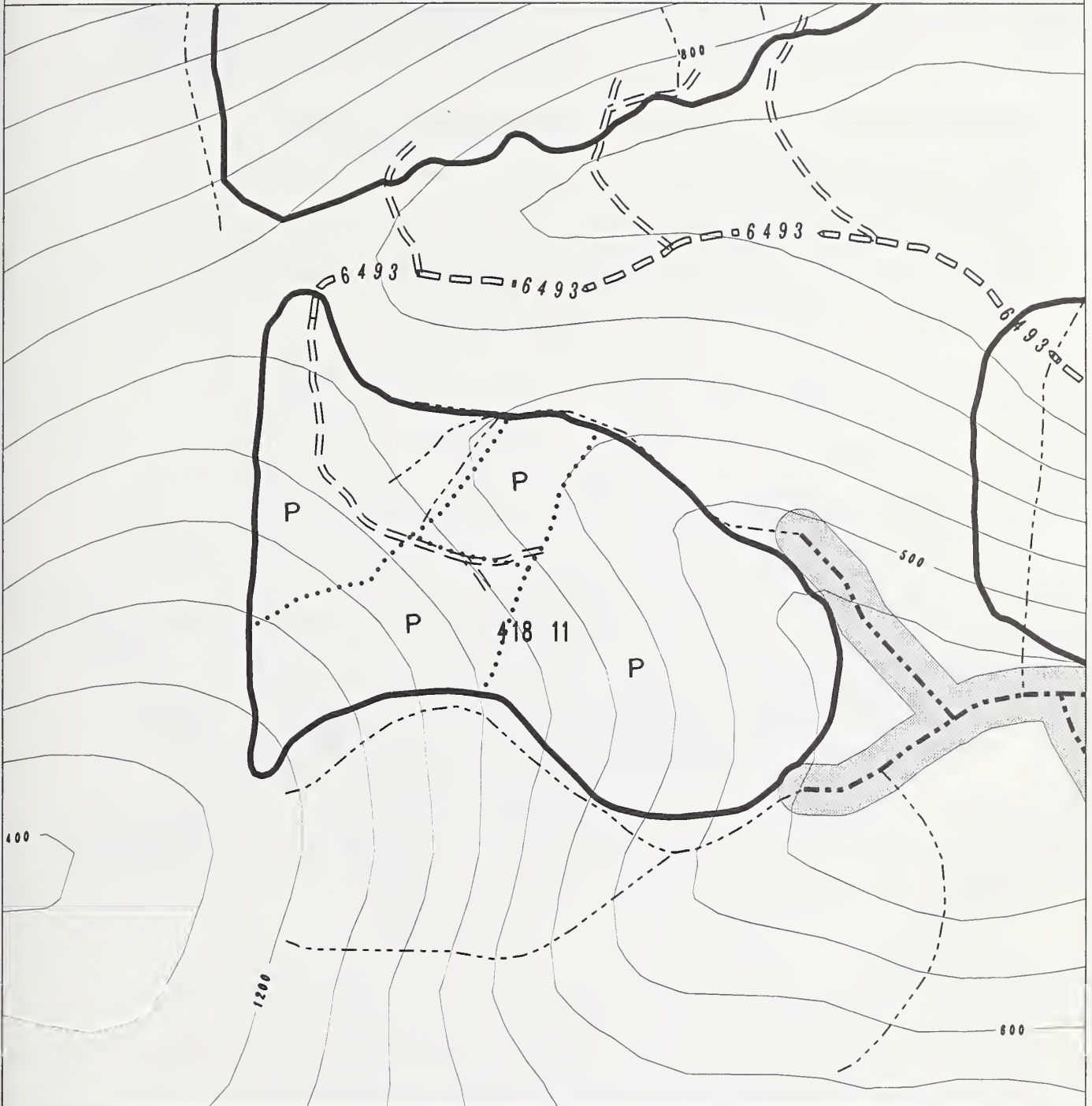
C. Unit Design:

Use Class III streams as the north and south boundaries.

Partial suspension is required over entire unit for soil stability.

UNIT MAP

418 - 11



- | | | | | | |
|--|----------------------------|-------------------------|----------------------------|--|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 | 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | | | | LAKES |
| | PROPOSED SPECIFIED ROAD | 1 Inch = 660 Feet | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | | | STREAM - CLASS II |
| | HARVESTED UNIT | F | FULL SUSPENSION YARDING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | P | PARTIAL SUSPENSION YARDING | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-12

Acres: 66 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 226 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 1,389 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II stream adjacent to southern boundary - maintain riparian buffer.

Class III streams within unit - maintain stream channel stability.

Moderately unstable soils in southern portion of unit - maintain soil stability.

North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer on Class II stream to south of unit (BMP 12.6).

Class III stream in western portion of unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

Class III streams in the eastern portion of unit will be protected under contract provision B6.5c (BMP 13.16 E5, E9).

B. Transportation System

Specified road 6493 runs up the ridge north of the unit then swings through the northwest section of the unit. Two temporary spurs access landings for the eastern settings.

C. Unit Boundary

Unit is located on lee side of the hill and is protected from the north winds.

Skyline corridors will be needed through southern stream buffer to provide tailholds for skyline on opposite ridge to provide needed suspension in unit and over V-notch in western part of unit.

Partial suspension is required in the southern portion of unit to maintain soil stability.

Unit designed for a gravity skyline system.

UNIT MAP

418 - 12



UNIT BOUNDARY

SETTING BOUNDARY

EXISTING SPECIFIED ROAD

PROPOSED SPECIFIED ROAD

PROPOSED TEMPORARY ROAD

HARVESTED UNIT

UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



F FULL SUSPENSION YARDING

P PARTIAL SUSPENSION YARDING

SALTWATER

100' TTRA BUFFER

LAKES

STREAM - CLASS I

STREAM - CLASS II

STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-13

Acres: 62 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 225 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 15 MBF/Acre Total Net Unit Volume: 914 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class III streams within and adjacent to unit - maintain stream channel stability.

Area visible from Seclusion Harbor - meet VQO of Modification.

Southeast winds dominate - maintain windfirmness.

Unstable soils in the northern portion of unit - maintain soil stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Southernmost and central Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

The northern Class III stream within unit will be protected under contract provision B6.5c (BMP 13.16 E5, E9).

3. Visuals:

Landscape is visible from Seclusion Harbor and Salt Lagoon and rolls around a low lying ridge to approximately 600-foot elevation.

B. Transportation System

Specified road 6493 runs through the southern settings of the unit.

Temporary spurs will access additional landings.

C. Unit Boundary

Western boundary rolls over the ridge eliminating obvious harsh line, eastern edge is undulating to minimize apparent size and to meet the visual objective.

Northwestern boundary is moved to edge of V-notch (behind ridge) to prevent windthrow.

Settings that would have gone to the Salt Lagoon alternative route of road 6402 have been dropped as the Salt Lagoon route will not be included in any alternatives.

Partial suspension is required in the three northern settings to maintain soil stability.

UNIT MAP

418 - 13



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-14

Acres: 22 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 227 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 17 MBF/Acre Total Net Unit Volume: 376 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

B. Transportation System

Temporary spur from Rd. 6493 will access unit.

C. Unit Boundary

Upper boundary of unit should follow edge of second growth to provide windfirmness.

UNIT MAP

418 - 14



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-15

Acres: 34 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 227 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 17 MBF/Acre Total Net Unit Volume: 586 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. No changes have been identified to conform to TTRA requirements.

Class III streams within and adjacent to unit - maintain stream channel stability.

Moderately unstable soils in the northern portion of unit - maintain soil stability.

Northern winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

B. Transportation System

Specified road 6484 will run through the unit.

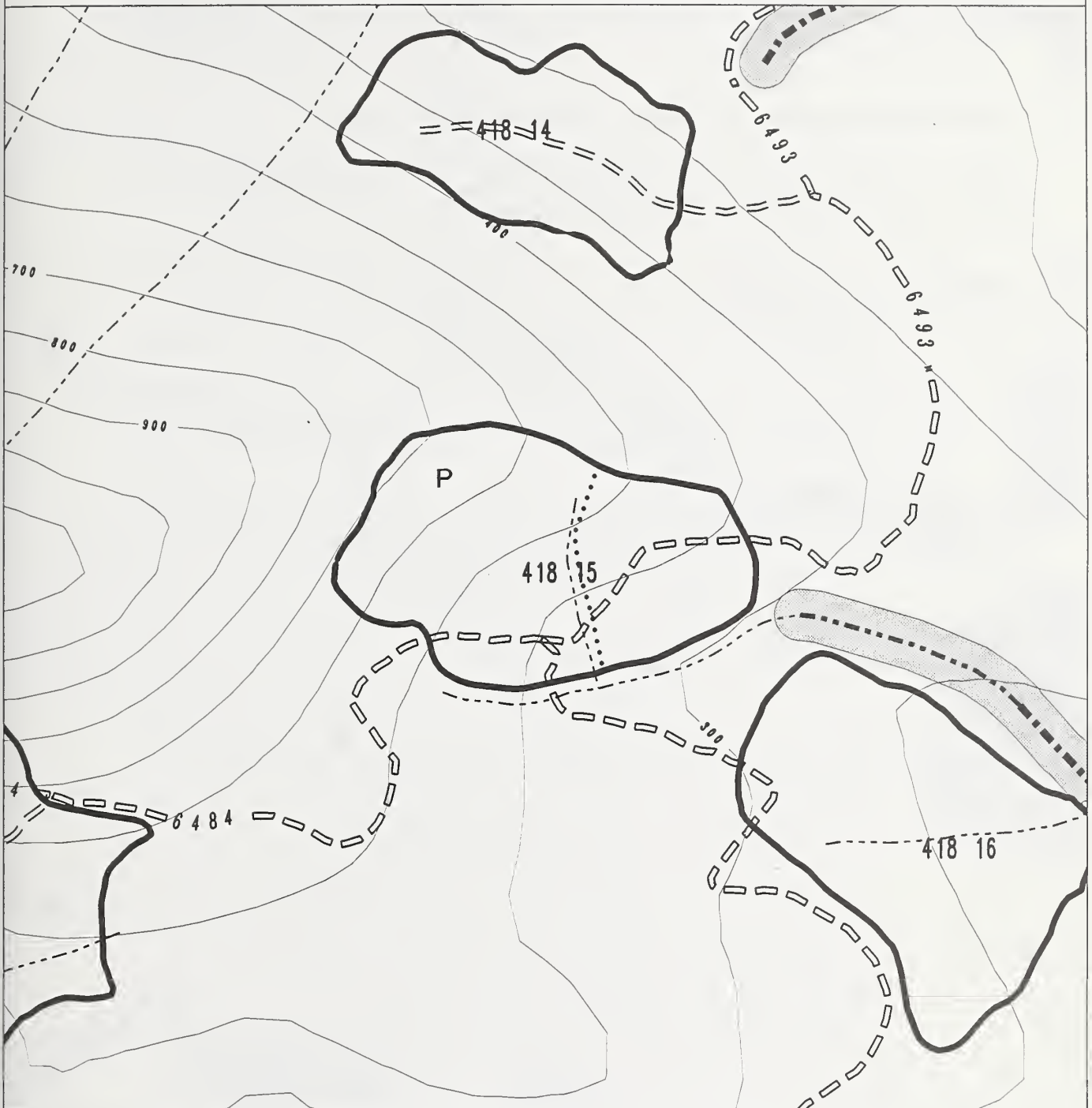
C. Unit Boundary

Use Class III stream to south, or slope break, as unit boundary and leave unmerchantable windfirm trees along bank for future soil stability.

Partial suspension designated on steep ground in northern portion of unit
Unit is located on leeward side of hill providing windfirmness.

UNIT MAP

418 - 15



- | | | | | | |
|--|----------------------------|-------------------------|------------------------------|--|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 | 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | | | | LAKES |
| | PROPOSED SPECIFIED ROAD | 1 Inch = 660 Feet | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | F FULL SUSPENSION YARDING | | STREAM - CLASS II |
| | HARVESTED UNIT | | P PARTIAL SUSPENSION YARDING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | | | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-16

Acres: 34 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 77 USGS 1/4 QUAD MAP #: PBG C6 SW
Net Vol/Ac: 14 MBF/Acre Total Net Unit Volume: 487 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I and II stream along northeast boundary - maintain riparian buffer.
Class III stream within unit - maintain stream channel stability.
North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Management:

Maintain 100-foot buffer along the Class I and II stream (BMP 12.6).
Class III stream within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

B. Transportation System

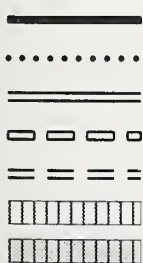
Specified road 6493 will access unit.

C. Unit Boundary

Southeast boundary is located adjacent to scrub timber, providing protection from windthrow.

UNIT MAP

418 - 16



100 Ft Contour Interval
 0 330 660 990 1320 Feet
 1 inch = 660 Feet

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

F FULL SUSPENSION YARDING
 P PARTIAL SUSPENSION YARDING

[Hatched Box] SALTWATER
 [Hatched Box] 100' TTRA BUFFER
 [Hatched Box] LAKES
 - - - - - STREAM - CLASS I
 - - - - - STREAM - CLASS II
 - - - - - STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 418-17

Acres: 20 Alternative: 3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 39 USGS 1/4 QUAD MAP #: PSG C6 SW
Net Vol/Ac: 29 MBF/Acre Total Net Unit Volume: 583 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I stream adjacent to the western boundary - maintain riparian buffer.
Southeast and north winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along the Class I stream (BMP 12.6).

B. Transportation System

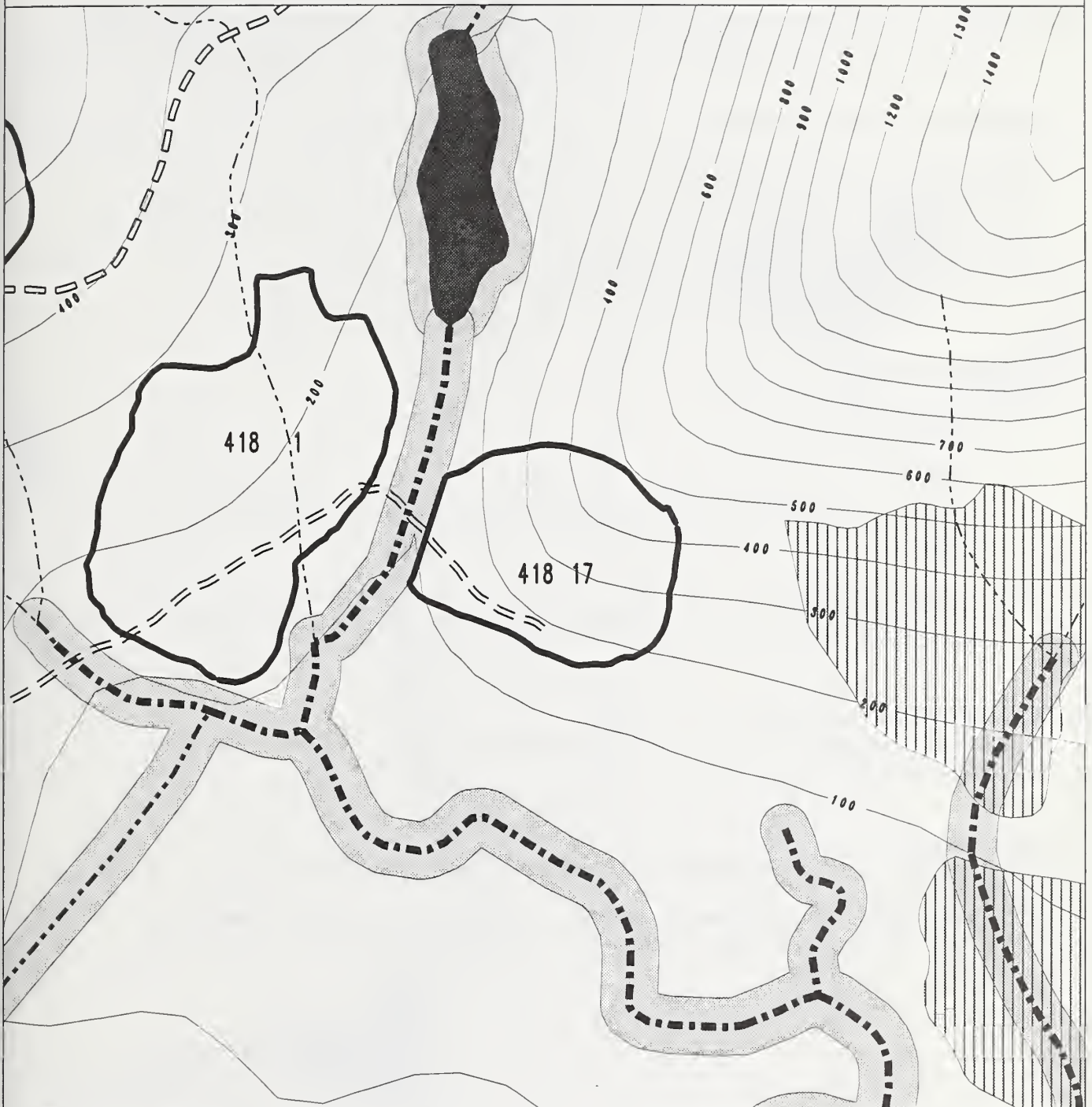
Unit is accessed by a temporary spur road.

C. Unit Design

South boundary is surrounded by scrub timber and muskeg which will provide windfirm boundaries. Northwest boundary is protected from windthrow by ridge.

UNIT MAP

418 - 17



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet
1 inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

Unit 419-1

Acres: 33 Alternative: 2,3 LUD: IV Mgmt. Area: S04
1977 Aerial Photo Year Flight: 16 Photo#: 97 USGS 1/4 Quad Map # PBG C6 NW
Est. Net Vol/Ac: 20 MBF/Acre Est. Total Net Unit Volume: 665 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Protect Class II streams north and west of unit - maintain riparian buffer.
Moderately unstable soils in southern portion of unit - maintain soil stability.

South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thinning to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer on Class II streams on north and west side of unit (BMP 12.6).

B. Transportation System

Specified road 6455 accesses unit. A temporary spur will access the southern setting.

C. Unit Design

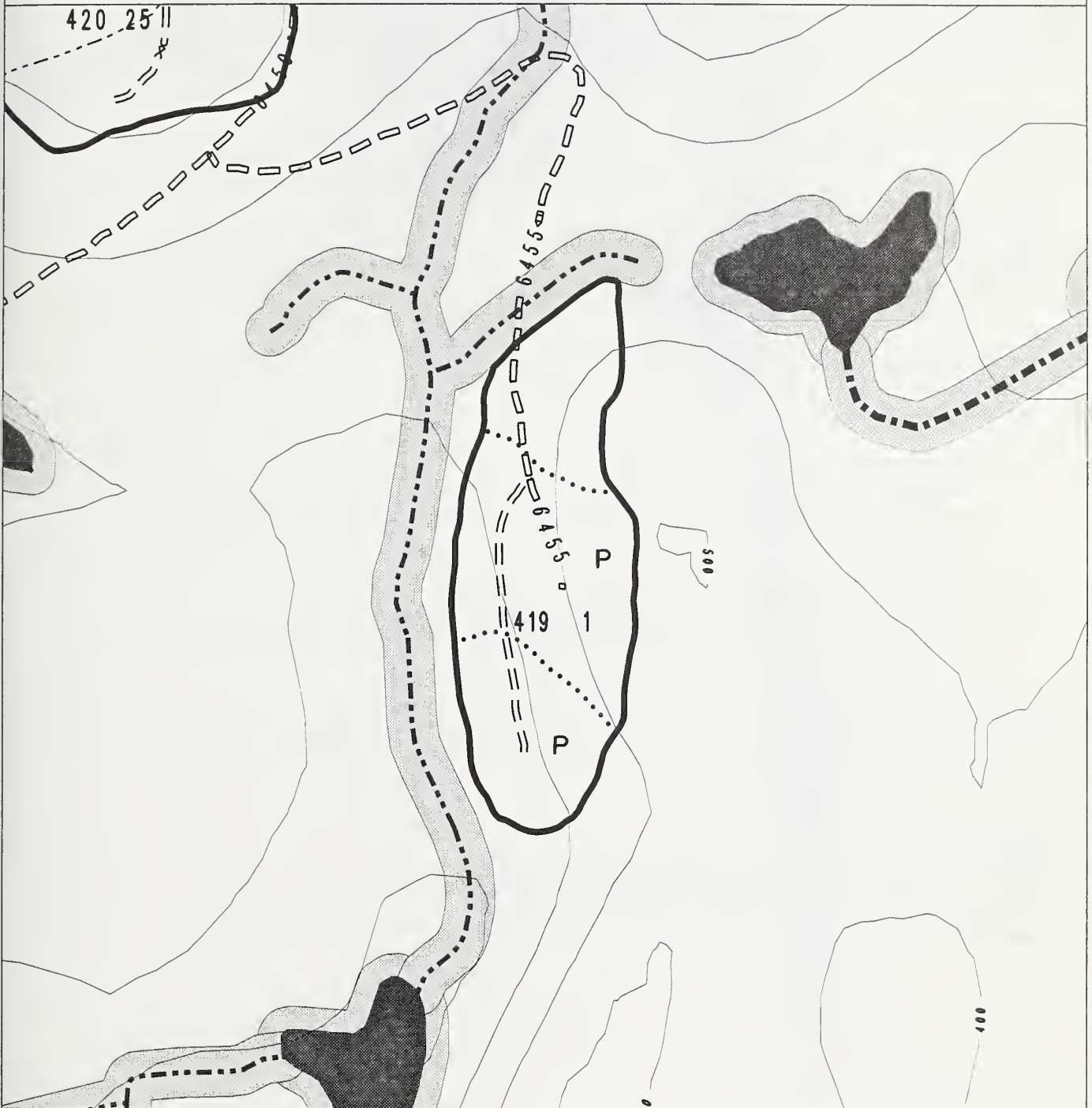
North boundary is located low on slope break to provide protection from the north winds.

Partial suspension required in southern two settings of unit (BMP 13.5).

Western boundary provides an extended width buffer greater than 100 feet on the Class II stream.

UNIT MAP

419 - 1



- | | | | | | |
|--|----------------------------|-------------------------|------------------------------|--|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 | 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | | | | LAKES |
| | PROPOSED SPECIFIED ROAD | 1 inch = 660 Feet | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | F FULL SUSPENSION YARDING | | STREAM - CLASS II |
| | HARVESTED UNIT | | P PARTIAL SUSPENSION YARDING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | | | | |



NORTH AND EAST KUIU UNIT PLAN

Unit 419-2

Acres 35 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo Flight#: 15 Photo#: 87 USGS 1/4 QUAD MAP#: PBG C6 NW
Net Vol/Ac: 17 MBF/Acre Total Net Unit Volume: 599 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Lake northeast of unit - maintain wildlife travel corridor.

Class III stream within unit - maintain stream channel stability.

North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thinning to maintain healthy stand.

2. Aquatic Habitat:

Class III stream within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Full suspension is planned.

B. Transportation System

Landings are accessed by temporary road onto a ridge that is oriented north to south within this unit.

C. Unit Design

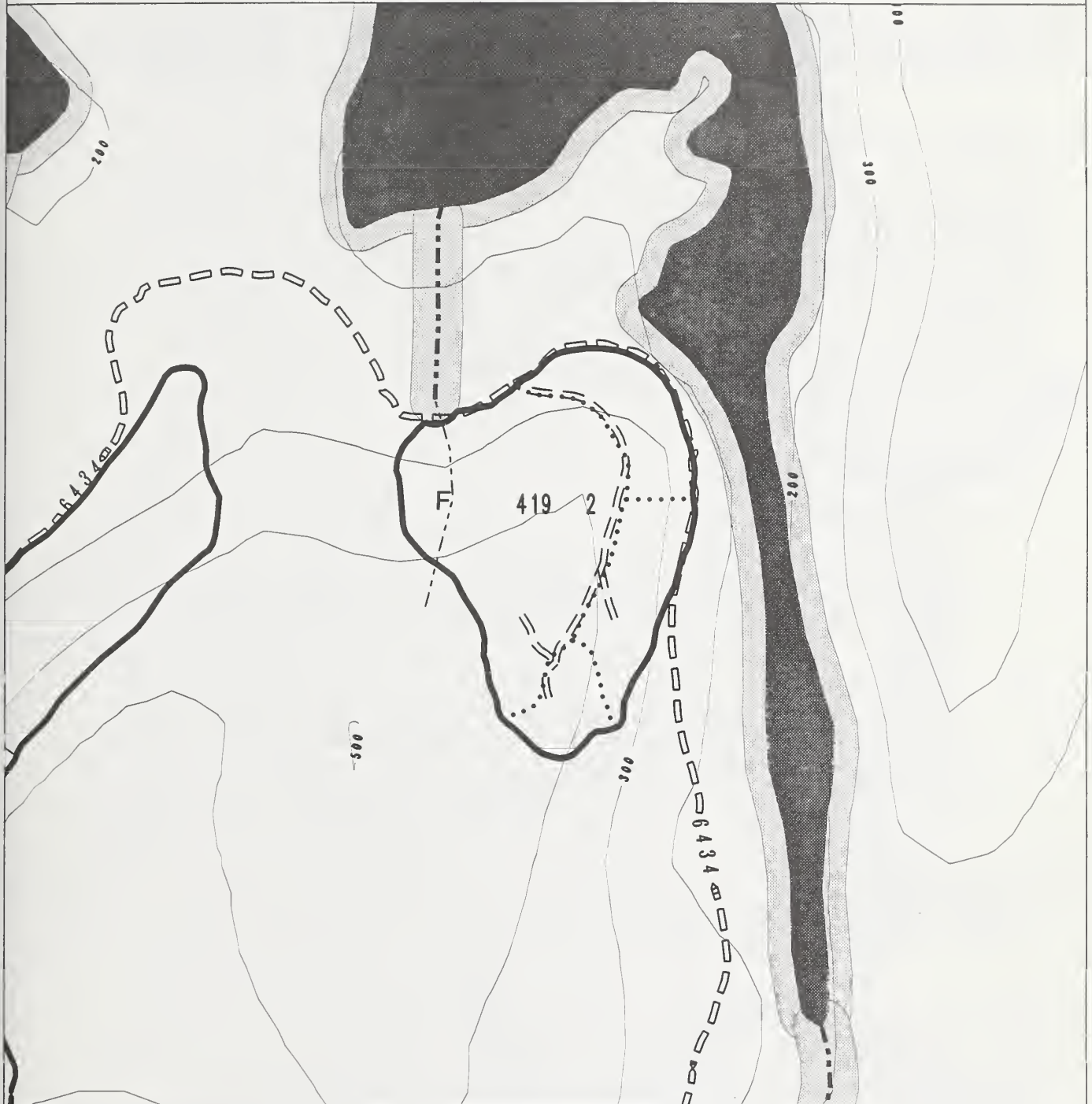
Maintain a 200-foot buffer between unit and lake (BMP 12.6).

Full suspension is required over the Class III stream.

Unit is surrounded by scrub timber and muskegs, providing windfirm boundaries.

UNIT MAP

419 - 2



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

Unit 419-3

Acres 81 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo Flight#: 15 Photo#: 86 USGS 1/4 QUAD MAP#: PBG C6 NW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 1,431 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II stream east of unit - maintain riparian buffer.

Class III streams within unit - maintain stream channel stability.

Moderately unstable soils in the northwest portion of unit - maintain soil stability.

North winds predominate - maintain windfirmness.

There may be potential fish enhancement opportunities(KV Project) by constructing a fish ladder on Hiller Creek.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thinning to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer on Class II stream east of unit (BMP 12.6).

Class III stream within unit will be protected under contract provision B6.5c (BMP 13.16 E5, E9).

Conduct feasibility studies for a possible fish ladder on Hiller Creek.

B. Transportation System

Two specified roads 6434 and 6464 run through unit. Temporary spurs are planned to access the landings.

C. Unit Design

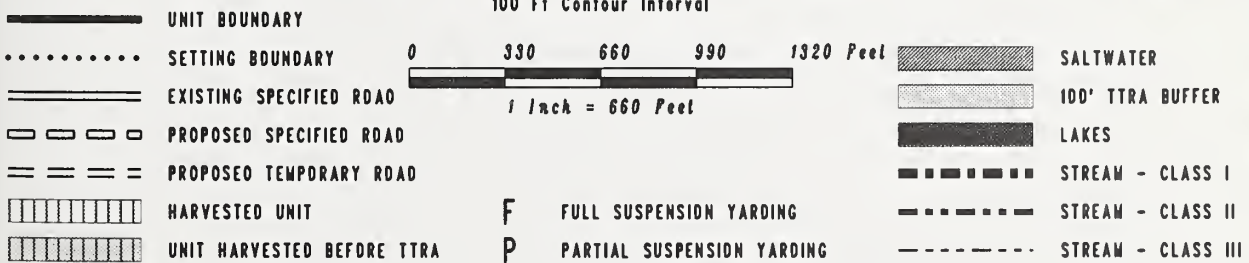
Partial suspension is required in the northwest portion of unit to protect shallow soils.

Windthrow potential reduced by muskegs along south and east boundary.

Boundaries adjacent to scrub timber and muskeg, providing protection from windthrow.

UNIT MAP

419 - 3



NORTH AND EAST KUIU UNIT PLAN

Unit 419-4

Acres 88 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo Flight#: 15 Photo#: 85,86 USGS 1/4 QUAD MAP#: PBG C6 NW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 1,612 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class III stream within unit - maintain stream channel stability.

Class II streams adjacent to unit - maintain riparian buffer.

North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thinning to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers on Class II streams (BMP 12.6).

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

B. Transportation System

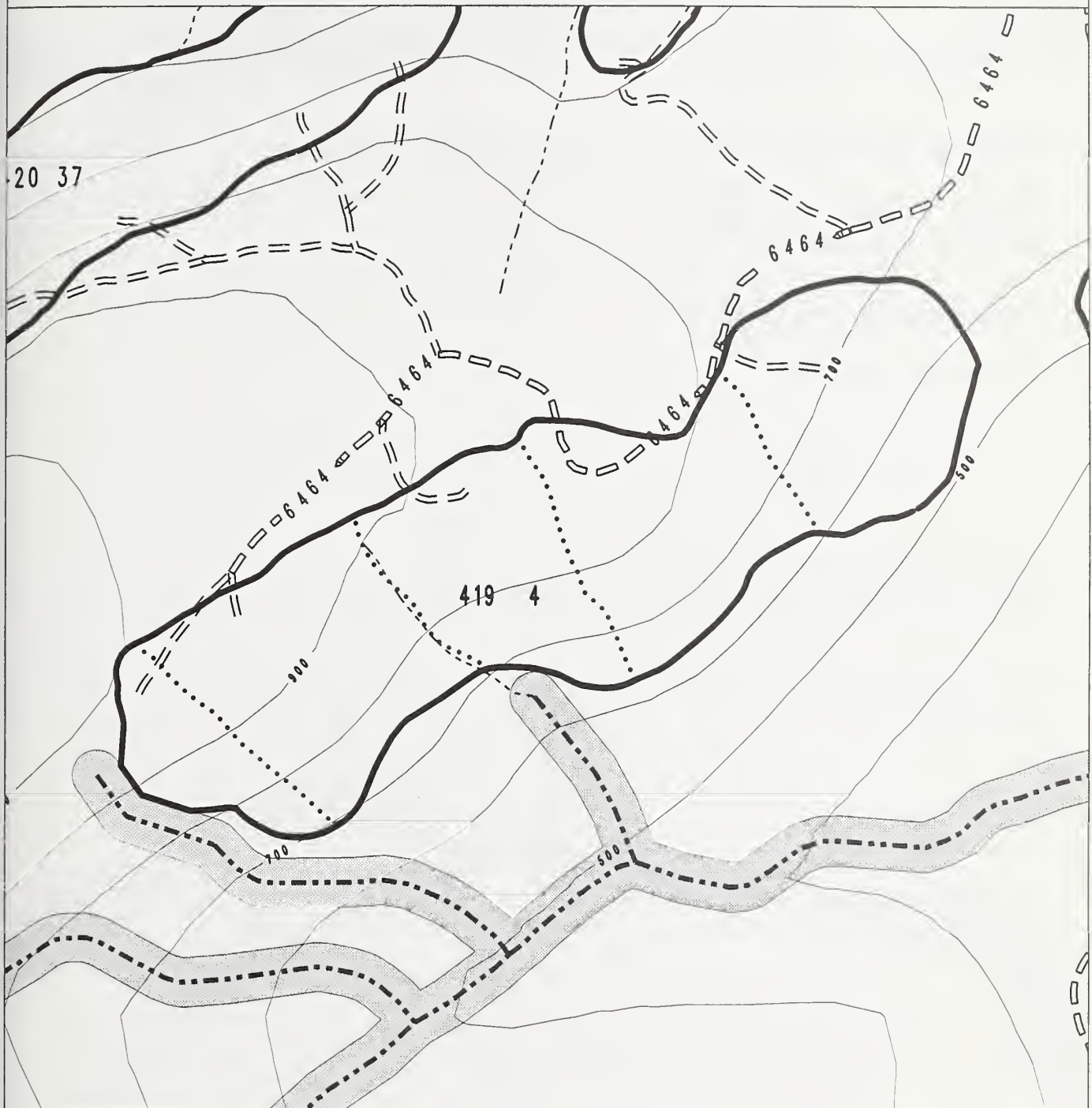
Road 6464 is specified up to the junction of the temporary spurs into the last two landings. Future settings are located to the west of this unit. Temporary spurs will access the landings for this unit.

C. Unit Design

Unit is located on leeward side of hill, providing for windfirm boundaries.

UNIT MAP

419 - 4



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

Unit 419-5

Acres 6 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo Flight#: 15 Photo#: 84 USGS 1/4 QUAD MAP#: PBG C6 NW
Net Vol/Ac: 13 MBF/Acre Total Net Unit Volume: 78 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thinning to maintain healthy stand.

B. Transportation System

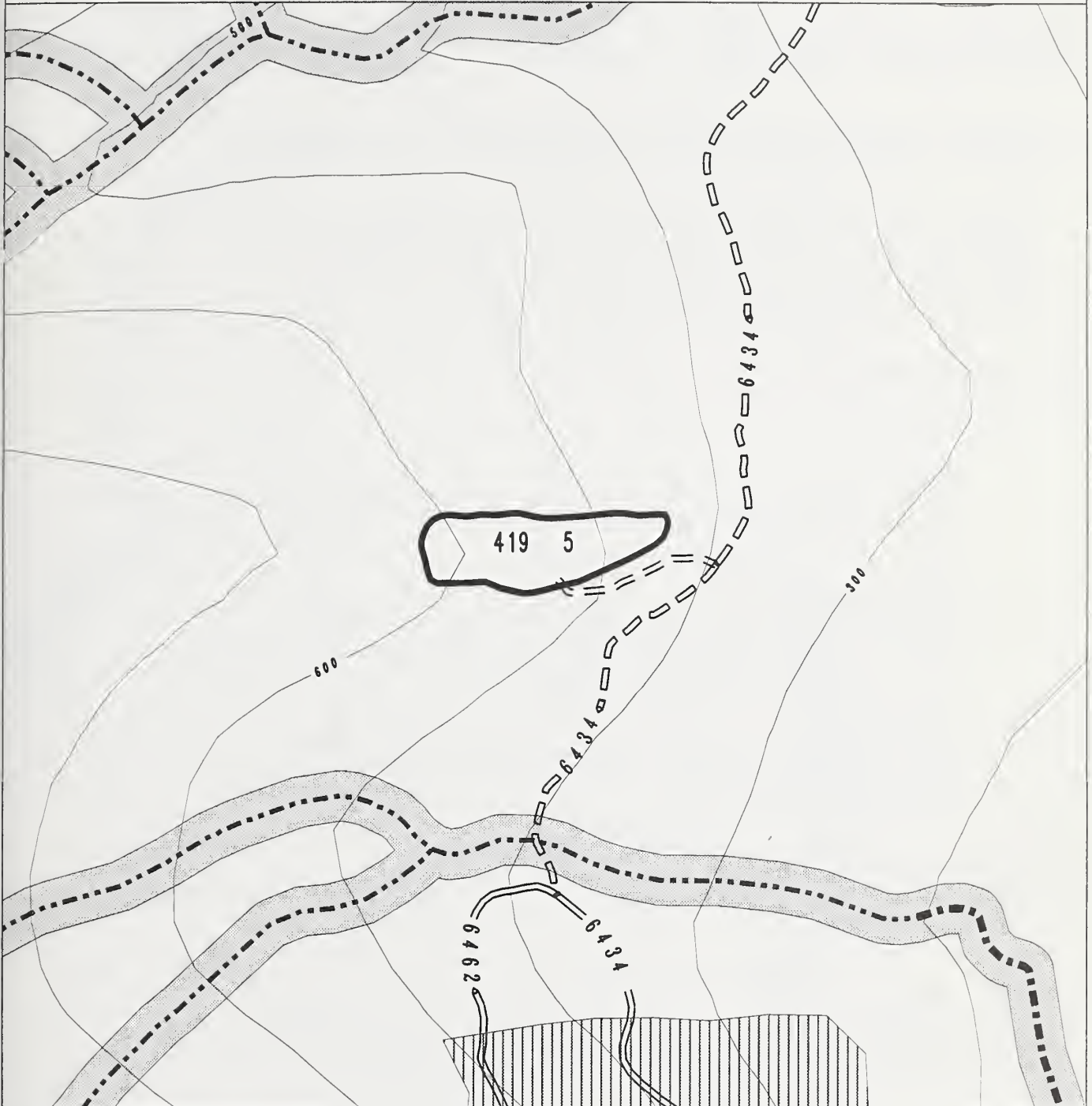
This unit will be accessed by a temporary road located on the southern boundary from specified road 6434.

C. Unit Design

Unit surrounded by scrub timber and muskeg, providing for windfirm boundaries.

UNIT MAP

419 - 5



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

Unit 419-27

Acres 86 Alternative: 2,3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo Flight#: 17 Photo#: 37,38 USGS 1/4 QUAD MAP#: PBG C6 SE
Net Vol/Ac: 15 MBF/Acre Total Net Unit Volume: 1,588 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class II stream adjacent to eastern boundary - maintain riparian buffer.
Class II stream changes to a Class III along the eastern boundary - maintain stream channel stability.
Area visible from salt water - meet VQO of Modification.
North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. **Vegetation:**
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thinning to maintain healthy stand.
2. **Aquatic Habitat:**
Maintain 100-foot buffer along Class II stream (BMP 12.6)
Class III stream along boundary will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).
3. **Visuals:**
Area is seen in the middle to background distance and is part of the Three Mile Arm viewshed. Landforms are broken and irregular in topographic relief.

B. Transportation System

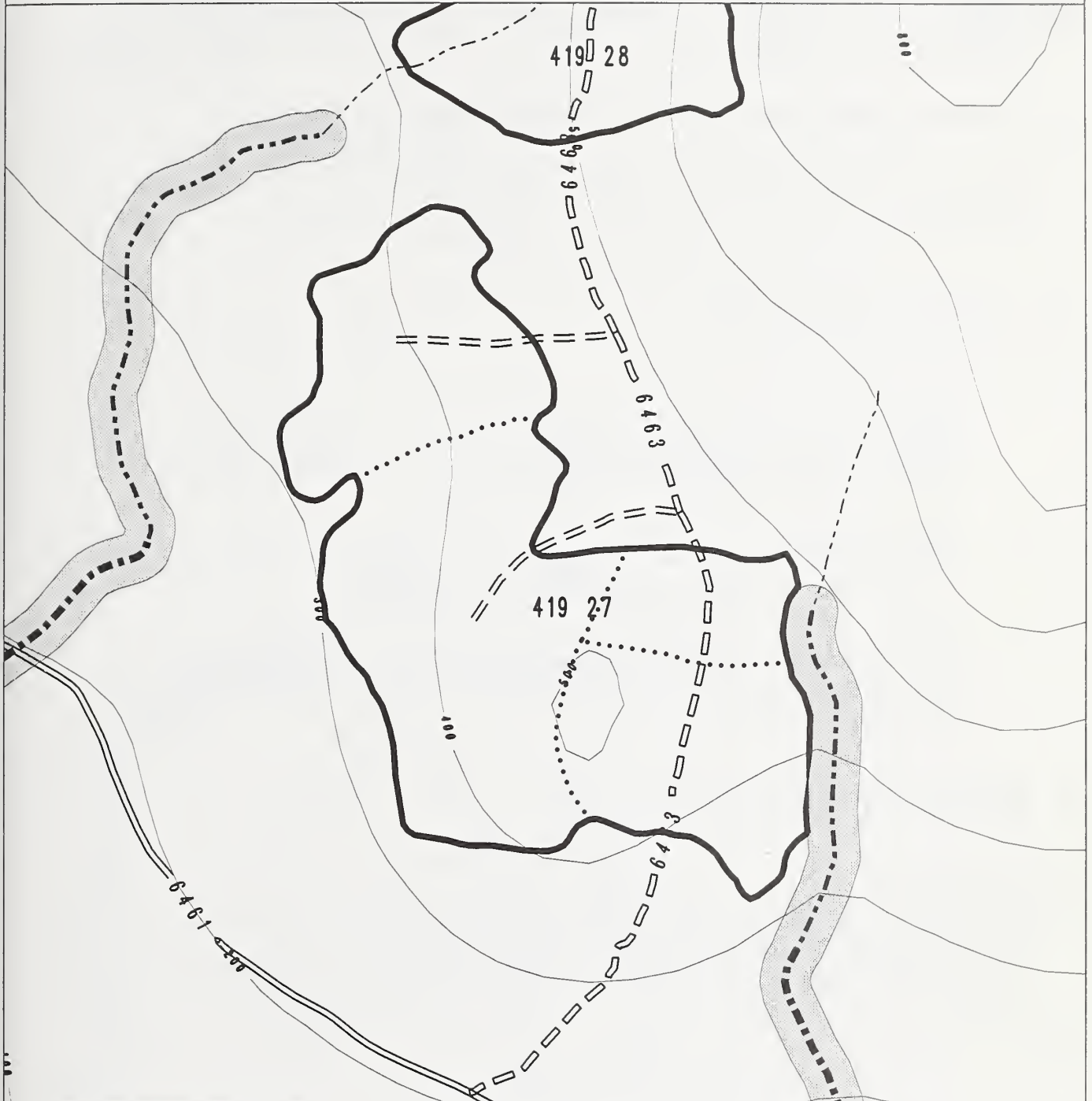
Specified road 46611 runs through unit. Two western settings accessed by temporary roads.

C. Unit Design

Unit's irregular shape fits with the landscape and meets the VQO.
Stream buffer is parallel to prevailing winds. Rest of unit is surrounded by scrub timber, providing protection from windthrow.

UNIT MAP

419 - 27



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

Unit 419-28

Acres 25 Alternative: 2,3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo Flight#: 17 Photo#: 37 USGS 1/4 QUAD MAP#: PBG C6 NW
Net Vol/Ac: 20 MBF/Acre Total Net Unit Volume: 505 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Area is seen from salt water - meet VQO of Modification.
Class III stream in western portion of unit - maintain stream channel stability.
North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thinning to maintain healthy stand.
2. Aquatic Habitat:
Class III stream will be protected under contract provision B6.5c (BMP 13.16 E5, E9). Partial suspension is planned.
3. Visuals:
Area is seen in the middle to background distance and is part of the Three Mile Arm viewshed. Landforms are broken and irregular in topographic relief.

B. Transportation System

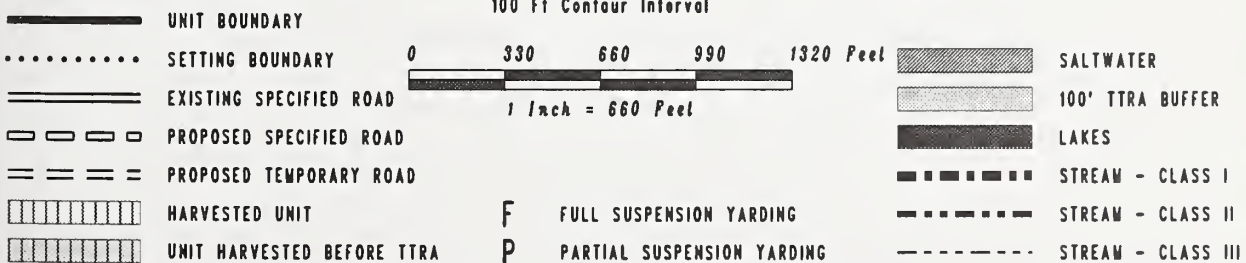
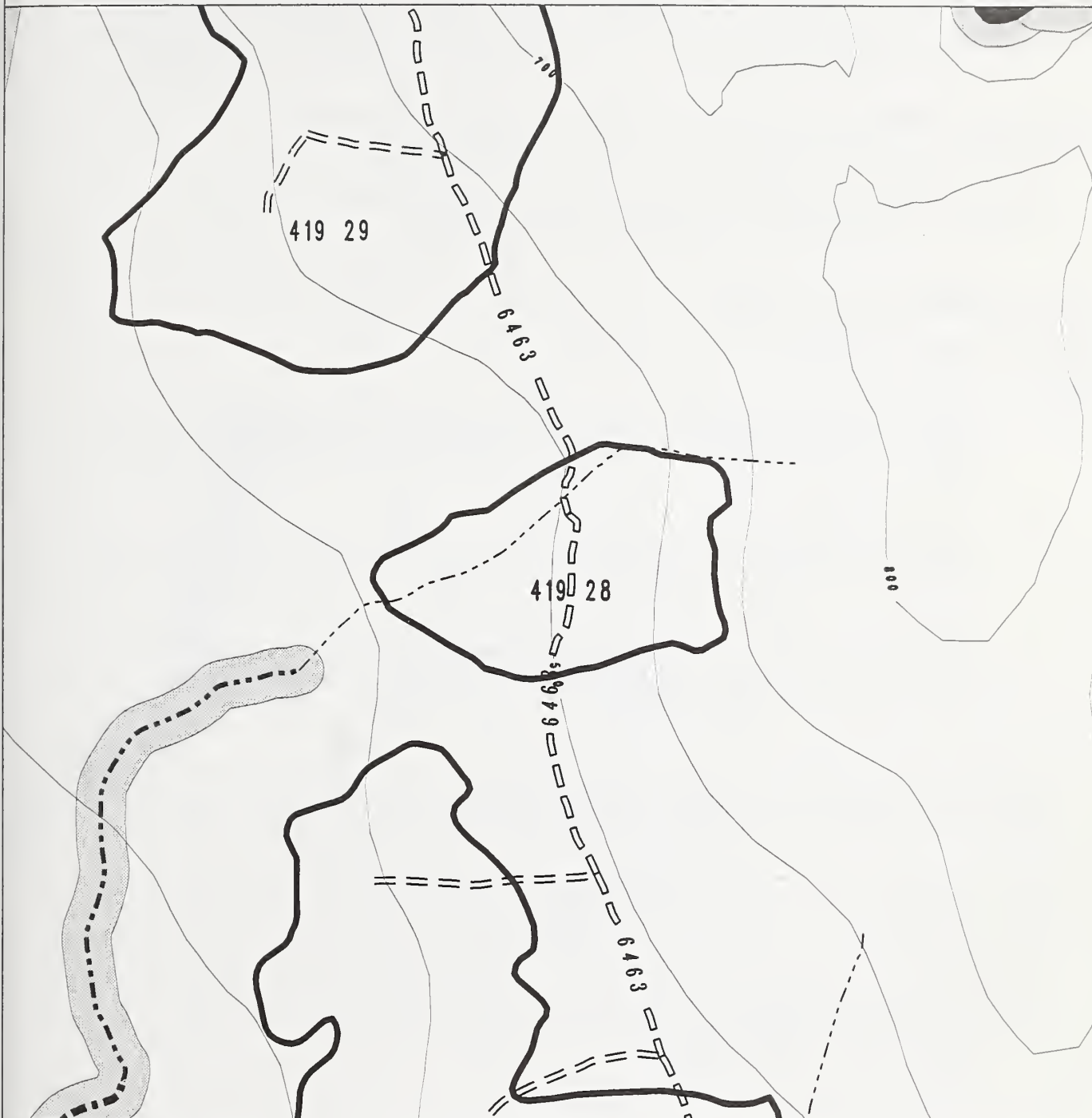
Specified road 46611 runs through unit.

C. Unit Design

Unit faces inland and would be viewed at an oblique angle, meeting the VQO. The northeast boundary follows a notch to the road. South boundary is located adjacent to scrub timber. Northeastern boundary is situated around the curve of the hill, providing some protection from winds.

UNIT MAP

419 - 28



NORTH AND EAST KUIU UNIT PLAN

Unit 419-29

Acres 88 Alternative: 2,3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo Flight#: 17 Photo#: 37 USGS 1/4 QUAD MAP#: PBG C6 NE
Net Vol/Ac: 25 MBF/Acre Total Net Unit Volume: 2,187 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Area is seen from salt water - meet VQ0 of Modification.
Class III stream north of unit - maintain stream channel stability.
North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thinning to maintain healthy stand.

2. Aquatic Habitat:

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Visuals:

Area is seen in the middle to background distance and is part of the Three Mile Arm viewshed. Landforms are broken and irregular in topographic relief.

B. Transportation System

Specified system road runs through north east portion of unit. Temporary roads will access settings in the western portion of the unit.

C. Unit Design

Unit boundary follows vegetative breaks and is designed to be irregular to meet the VQ0.

Southern boundary is located along scrub timber to provide protection from windthrow.

A running skyline is recommended for the larger settings with a shovel yarder recommended for the shorter settings.

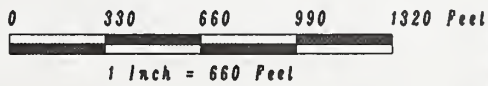
UNIT MAP

419 - 29



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

Unit 419-30

Acres 71 Alternative: 2,3,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo Flight#: 17 Photo#: 35 USGS 1/4 QUAD MAP#: PBG C6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 1,364 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I stream west of unit - maintain riparian buffer.
Northeastern boundary adjacent to LUD II - avoid LUD II area.
North winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems management

A. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thinning to maintain healthy stand.

B. Aquatic Habitat:

Maintain an extended width buffer, greater than 100 feet, along Class I stream west of unit (BMP 12.6).

B. Transportation System

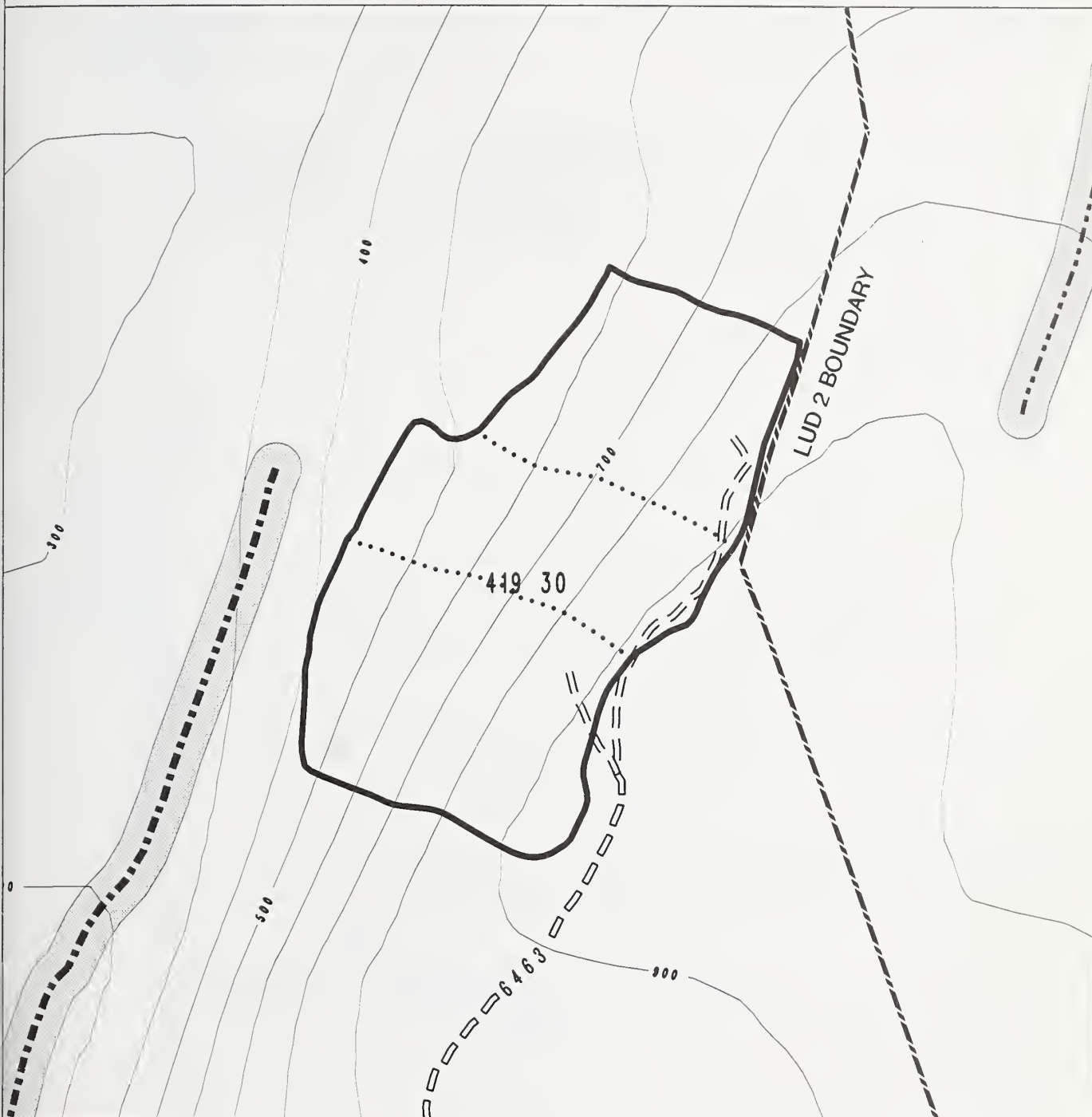
Specified road 46611 provides access to unit. Temporary spurs will access landings in unit.

C. Unit Design

Southeastern boundary located along scrub timber, dropping down the hill to the west to a patch of existing blowdown. Western boundary is parallel to prevailing winds, northern boundary is on leeward side of hill and sheltered from potential southerly winds. Northeastern edge is kept well away from the LUD II boundary (Rocky Pass VCU).
An extended width buffer is planned along the Class I to the west.

UNIT MAP

419 - 30



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-15

Acres: 109 Alternative: 2 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 93 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 17 MBF/Acre Total Net Unit Volume: 1,822 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I and II streams adjacent to unit - maintain riparian buffer.
North winds predominate - maintain windfirm stand along south boundary.
Unit is visible from Port Camden in the middle ground distance.
Unit located near beach - maintain beach fringe buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. Aquatic Habitat:
Maintain 100-foot buffers along all Class I and II streams (BMP 12.6).
3. Wildlife Habitat:
Maintain buffer between unit and beach to provide deer habitat and travel corridors.
4. Visuals:
Evenly sloped landform rises steeply from salt water with eastern ridgeline a dominate landscape feature.

B. Transportation System

Specified road 6472 will continue to last landing so it can be extended in the future. Temporary road in lower portion of unit will not be extended.

C. Unit Design

Southern boundary is adjacent to natural openings and scrub timber to minimize windthrow.
Unit will dominate views as seen from Port Camden, and reflects the theme of Alternative 2.
Shovel and running skline yarding is recommended.

UNIT MAP

420 - 15



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-16

Acres: 48 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 92 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 14 MBF/Acre Total Net Unit Volume: 678 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

North winds predominate - maintain windfirm stand along southern boundary.
Western portion of unit visible from Port Camden - maintain VQOs of Partial Retention and Modification.
Unit located near beach - maintain beach fringe buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Wildlife Habitat:

Maintain buffer along beach for eagle and deer habitat.

3. Visuals:

Landscape seen in the near distance and is comprised of a small low lying ridge (approx. 250 foot elevation) with the Port Camden viewshed dominating the middle ground views.

B. Transportation System

Specified road will continue to last landing so it can be extended in the future. Temporary road accesses lower portion of unit.

C. Unit Design

Western boundary is kept at the top of the slope break providing wildlife corridor.

South boundary to follow natural openings or shorter, windfirm stands.

UNIT MAP

420 - 16



	UNIT BOUNDARY	100 Ft Contour Interval		SALTWATER
	SETTING BOUNDARY	0 330 660 990 1320 Feet		100' TTRA BUFFER
	EXISTING SPECIFIED ROAD	1 inch = 660 Feet		LAKES
	PROPOSED SPECIFIED ROAD			STREAM - CLASS I
	PROPOSED TEMPORARY ROAD			STREAM - CLASS II
	HARVESTED UNIT	F FULL SUSPENSION YARDING		STREAM - CLASS III
	UNIT HARVESTED BEFORE TTRA	P PARTIAL SUSPENSION YARDING		



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-17

Acres: 173 Alternative: 2 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 16, Photo# 94 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 20 MBF/Acre Total Net Unit Volume: 3,490 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

North winds predominate - maintain windfirm stand along south boundary.
Unit is visible from Port Camden in the middle ground distance.
Class II streams adjacent to unit - maintain riparian buffers..
Class III stream north of unit - maintain stream channel stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. Aquatic Habitat:
Maintain 100-foot buffers along all Class II streams (BMP 12.6).
Class III stream along boundary will be protected under contract provision B6.5b (BMP 12.6 E5, E9, E11).
3. Visuals:
Landscape is a long ridge, running north-south and is a dominant visual feature as seen from Port Camden. Southern portion wraps to the east, and is not seen from Port Camden.

B. Transportation System

Specified road 6468 will continue to last landing so it can be extended in the future.

C. Unit Design

Unit will dominate views as seen from Port Camden, and reflects the theme of Alternative 2.
Class II stream buffer to the south is topographically protected from north winds.

UNIT MAP

420 - 17



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING



- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-18

Acres: 48 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 91 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 15 MBF/Acre Total Net Unit Volume: 723 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

North winds predominate - maintain windfirm stand along south boundary.
Portions of unit visible from Port Camden - meet VQO of Modification.
Class II stream south of unit - maintain riparian buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. Aquatic Habitat:
Maintain a 100-foot buffer along the Class II stream (BMP 12.6).
3. Visuals:
Unit is within the east Port Camden viewshed. Natural geological processes have resulted in a unique landscape creating benched, irregular landforms unique to the area.

B. Transportation System

Specified road 6472 along bottom of unit, and spur in upper portion of unit.

C. Unit Design

Western half of unit is seen from the middle to background distance; rounds over a small ridge reducing potential for visual impacts and meeting the VQO.

Boundaries adjacent to muskegs, providing windfirm boundaries. Buffer along Class II stream is afforded topographic protection from north winds.

UNIT MAP

420 - 18



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDOING
- P PARTIAL SUSPENSION YARDOING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-19

Acres: 89 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 90 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 13 MBF/Acre Total Net Unit Volume: 1,166 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class III streams within unit - maintain stream channel stability.
North winds predominate - maintain windfirm stand along boundaries.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III streams within unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

B. Transportation System

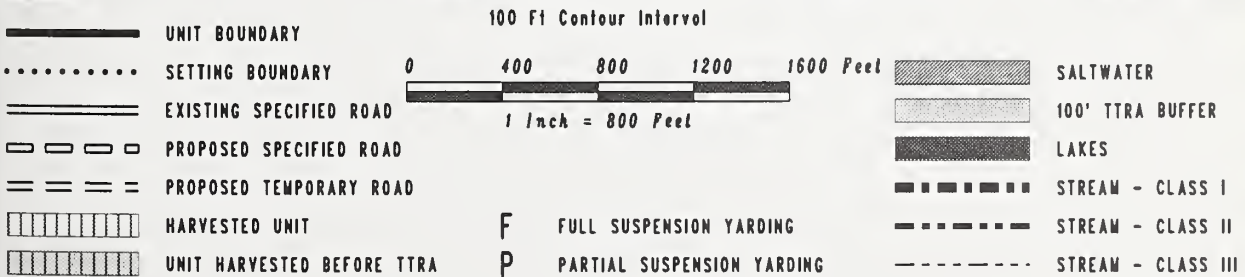
Specified road 6469 along bottom of unit.

C. Unit Design

Unit borders muskeg and scrub timber to the south, providing protection from windthrow.

UNIT MAP

420 - 19



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-20

Acres: 80 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 16, Photo# 96 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 1,643 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Lake southwest of unit - maintain wildlife travel corridor.

North winds predominate - maintain windfirm stand along boundaries.

Class II stream west of unit - maintain riparian buffer.

LUD II boundary located north of unit - avoid LUD II area.

Portions of unit visible from Port Camden - maintain VQO of Modification.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain at least a 100-foot buffer along the Class II stream west of unit (BMP 12.6).

3. Wildlife Habitat:

Maintain a 200-foot buffer around lake for wildlife habitat.

B. Transportation System:

Specified road 6450 will be specified to the ridgetop. In the future, this road will switch back to the south to access possible future units.

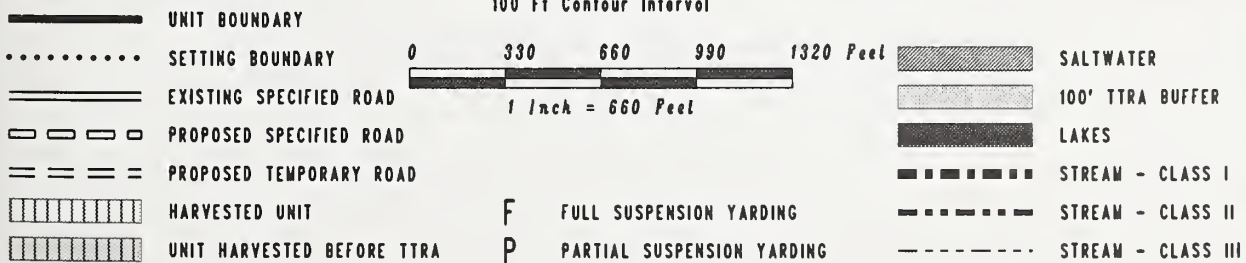
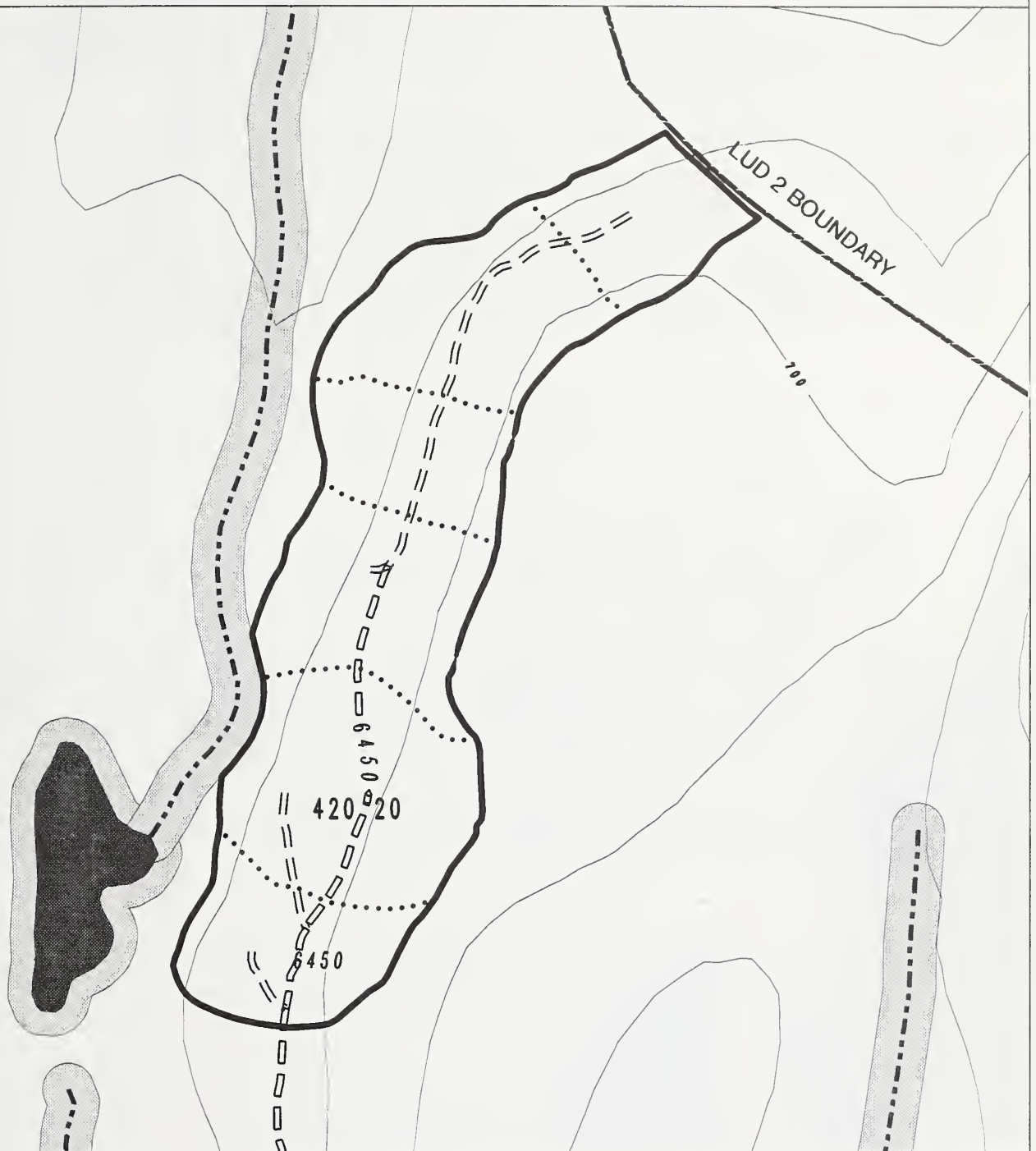
C. Unit Design:

Southern boundary has a moderate potential of risk from windthrow.

Buffer along the Class II to the northwest is intended to be extended width, greater than 100 feet.

UNIT MAP

420 - 20



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-21

Acres: 90 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 214 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 16 MBF/Acre Total Net Unit Volume: 1,458 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

North winds predominate - maintain windfirm stand along boundaries.

Portions of unit visible from Port Camden - maintain modification VQ0.

Class I streams west of unit - maintain riparian buffers.

Class III stream in northern part of unit - maintain stream channel stability.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers along the Class I streams west of unit (BMP 12.6).

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

3. Visuals:

Low lying landform (approximately 400 -foot) wraps south around to the east and faces inland. Northern half of unit could be seen intermittently.

B. Transportation System:

Road 46341 will be specified to the spur junction at the top of the unit. The ridge to the northeast will be accessed from here in the future.

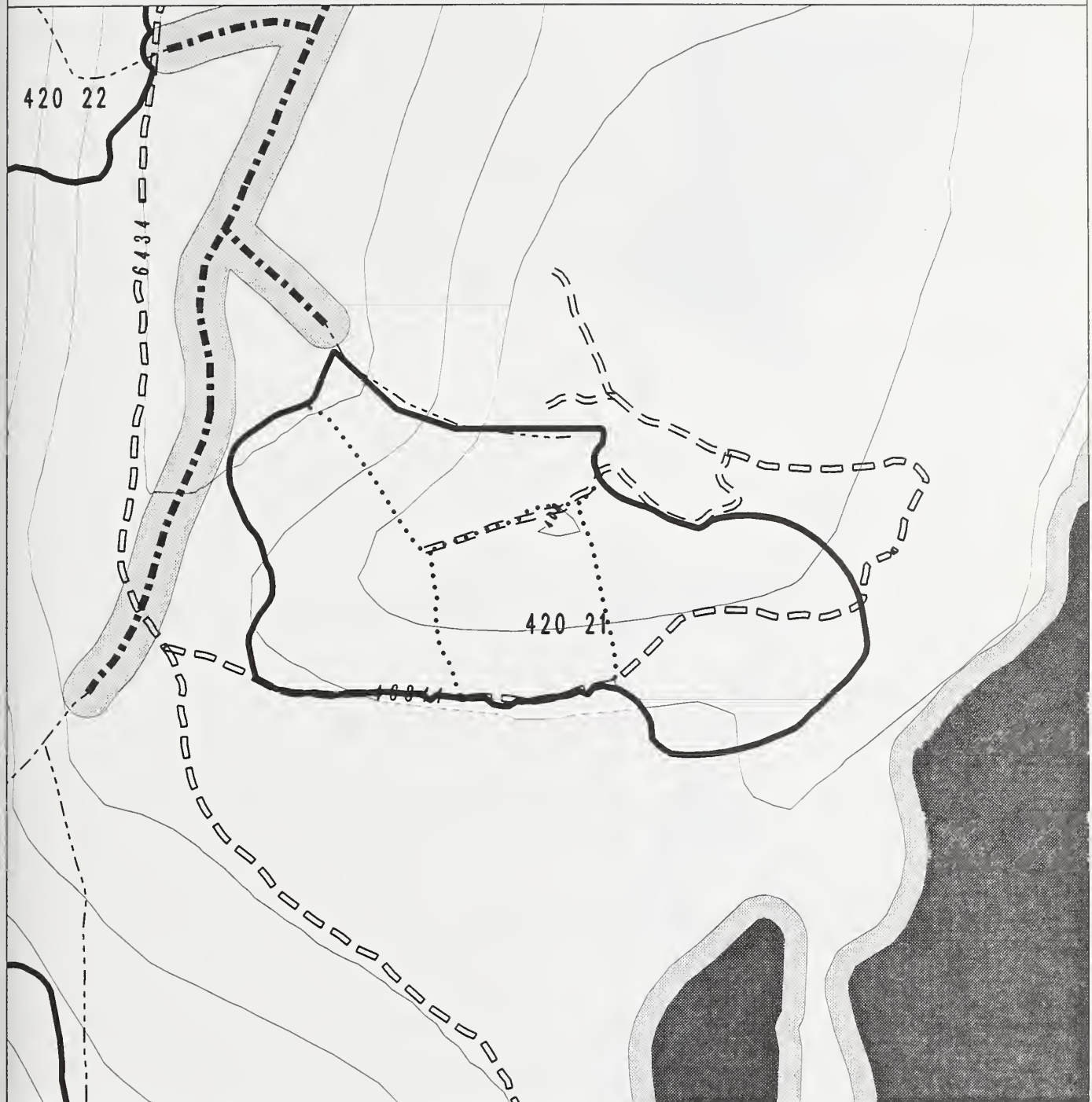
C. Unit Design:

Unit will meet visual objective due to the low lying topography and short duration of view.

Southern boundary adjacent to scrub timber and muskeg, providing protection from windthrow.

UNIT MAP

420 - 21



UNIT BOUNDARY
SETTING BOUNDARY
EXISTING SPECIFIED ROAD
PROPOSED SPECIFIED ROAD
PROPOSED TEMPORARY ROAD
HARVESTED UNIT
UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



F FULL SUSPENSION YARDING
P PARTIAL SUSPENSION YARDING

SALTWATER
100' TTRA BUFFER
LAKES
STREAM - CLASS I
STREAM - CLASS II
STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-22

Acres: 23 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 214 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 425 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

North winds predominate - maintain windfirm stand along boundaries.
Landscape visible from salt water - meet the Partial Retention and Maximum Modification VQOs.
Class III stream in unit - maintain stream channel stability.
Unit is located near beach - maintain beach fringe bufffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.
2. Aquatic Habitat:
Class III stream will be protected under contract provision B6.5c (BMP 13.16 E5, E9). Partial suspension is planned.
Maintain 100-foot buffer along the Class I stream to the east (BMP 12.6).
3. Wildlife Habitat:
Maintain buffer along beach for wildlife habitat.
4. Visuals:
Unit is on the eastern side of the ridge facing inland. This portion of the ridge is not a dominate feature as seen from Port Camden.

B. Transportation System

Specified road 6434 runs along bottom of unit.

C. Unit Design

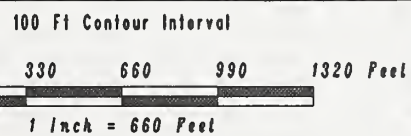
Unit viewed at an oblique angle and will be minimally apparent from salt water. Unit meets the visual objective.
Boundaries follow natural openings or shorter, windfirm stands. North boundary approaches the beach buffer to within 200 feet.

UNIT MAP

420 - 22



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA



- F** FULL SUSPENSION YARROWING
- P** PARTIAL SUSPENSION YARROWING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-23

Acres: 12 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 214 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 228 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

North winds predominate - maintain windfirm stand along boundaries.

Landform highly visible from salt water - meet VQO of Partial Retention.

Unit located near beach - maintain wildlife travel corridor.

Eagle nest tree near unit - provide buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Wildlife Habitat:

Maintain a beach fringe buffer for wildlife travel. Maintain a 330-foot radius buffer from identified eagle nest.

3. Visuals:

Unit is within the east Port Camden viewshed. Natural geological processes have resulted in a unique landscape creating benched, irregular landforms unique to the area.

B. Transportation System

Specified road 6475 will proceed in future to other units. Locate rock quarries in areas not seen from salt water.

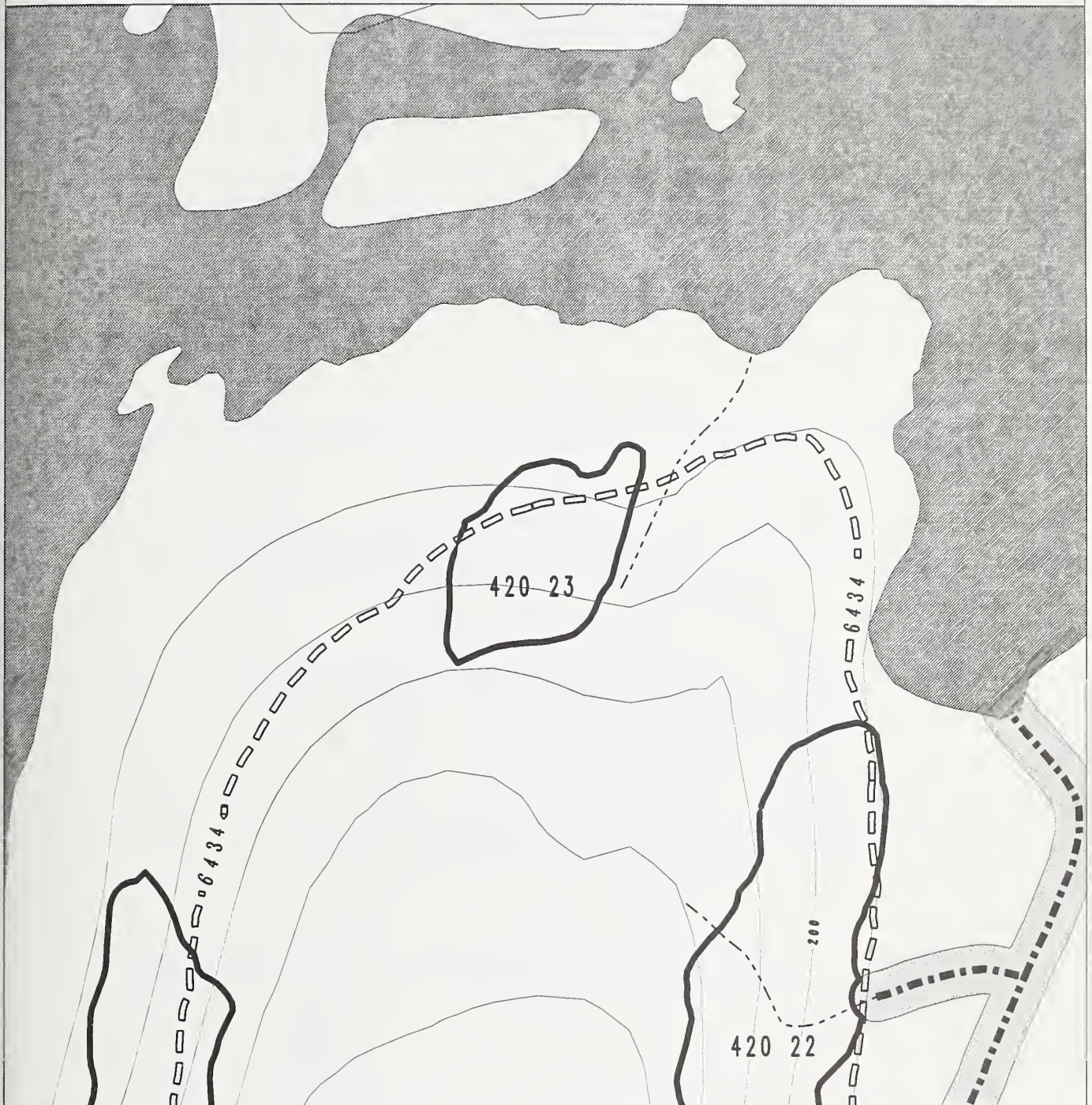
C. Unit Design

Very little little windthrow is expected in this area. Boundaries should be windfirm.

Unit's shape and orientation are key to meeting the visual objective.

UNIT MAP

420 - 23



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- F** FULL SUSPENSION YAROING
- P** PARTIAL SUSPENSION YAROING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-24

Acres: 68 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 214 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 1,307 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

North winds predominate - maintain windfirm stand along boundaries.
Two Class III streams in unit - maintain stream channel stability.
Unit is seen from salt water - meet VQO of Modification.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Full suspension is planned for the northern Class II stream. Splitlining is planned along the southernmost Class III stream.

3. Visuals:

A portion of unit is seen from Port Camden at a skewed angle in the middle to background distance. Locate rock quarries in areas not visible from salt water.

B. Transportation System:

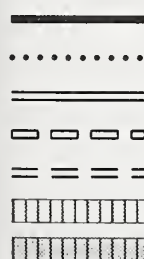
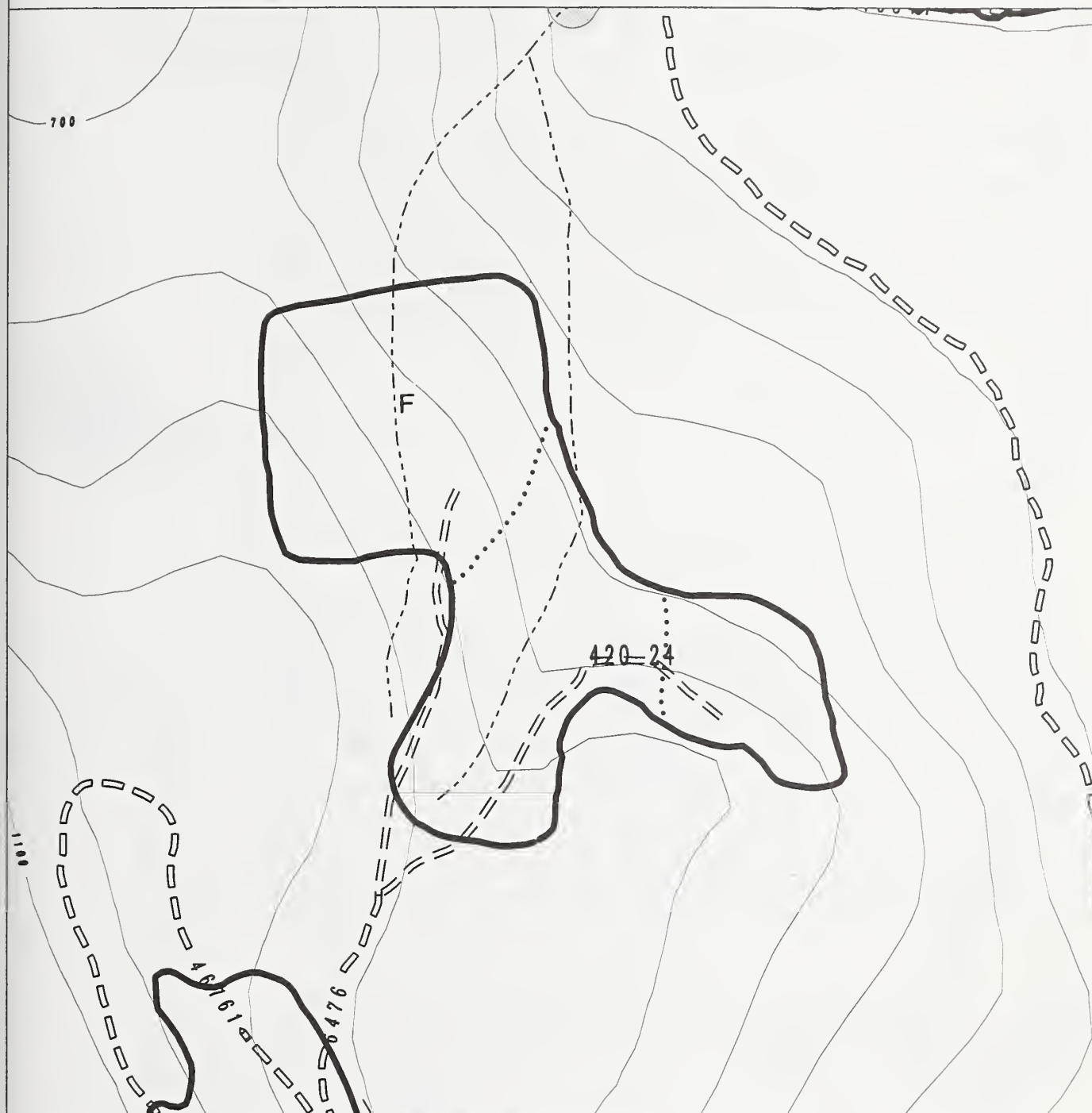
Specified road 6476 ends at the spur junction at the south end of the unit. Two temporary ridgetop spurs will continue on into unit.

C. Unit Design:

Unit boundaries on ridges are taken to scrub timber to minimize the visual impact and risk of windthrow wherever possible.

UNIT MAP

420 - 24



UNIT BOUNDARY

SETTING BOUNDARY

EXISTING SPECIFIED ROAD

PROPOSED SPECIFIED ROAD

PROPOSED TEMPORARY ROAD

HARVESTED UNIT

UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

F FULL SUSPENSION YARDING

P PARTIAL SUSPENSION YARDING

SALTWATER

100' TTRA BUFFER

LAKES

STREAM - CLASS I

STREAM - CLASS II

STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-25

Acres: 67 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 89 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 1,285 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

North winds predominate - maintain windfirm stand along boundaries.

Class II streams adjacent to western unit boundary - maintain stream channel stability.

Class III stream within unit - maintain stream channel stability.

Lake west of unit - maintain wildlife travel corridor.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along all Class II streams adjacent to the western unit boundary (BMP 12.6).

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.

3. Wildlife Habitat:

Maintain 200-foot buffer between unit and lake to the west.

B. Transportation System

Specified road 6450 runs through the unit. Spur roads are planned to access landings.

C. Unit Design

Unit boundaries are adjacent to scrub timber and muskeg, providing protection from windthrow.

UNIT MAP

420 - 25



- | | | | | | |
|--|----------------------------|-------------------------|-----------------------------|--|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 | 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | 1 Inch = 660 Feet | | | LAKES |
| | PROPOSED SPECIFIED ROAD | | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | | | STREAM - CLASS II |
| | HARVESTED UNIT | F | FULL SUSPENSION YARDOING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | P | PARTIAL SUSPENSION YARDOING | | |

NORTH AND EAST KUIU UNIT PLAN

UNIT 420-26

Acres: 50 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 88 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 16 MBF/Acre Total Net Unit Volume: 812 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

North winds predominate - maintain windfirm stand along boundaries.
Class II stream east of unit - maintain riparian buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration,
certify natural regeneration, precommercial thin to maintain
healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along Class II stream (BMP 12.6).

B. Transportation System

Unit will be accessed by temporary spur off of specified road 6469.

C. Unit Design

Unit borders scrub in all directions, providing windfirmness. Eastern
boundary is parallel to the north winds.

UNIT MAP

420 - 26



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-27

Acres: 8 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 88 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 149 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

North winds predominate - maintain windfirm stand along boundaries.

Class II streams adjacent to unit - maintain riparian buffers.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain at least 100-foot buffers along all Class II streams (BMP 12.6).

B. Transportation System

Spur road from specified road 6469 accesses unit.

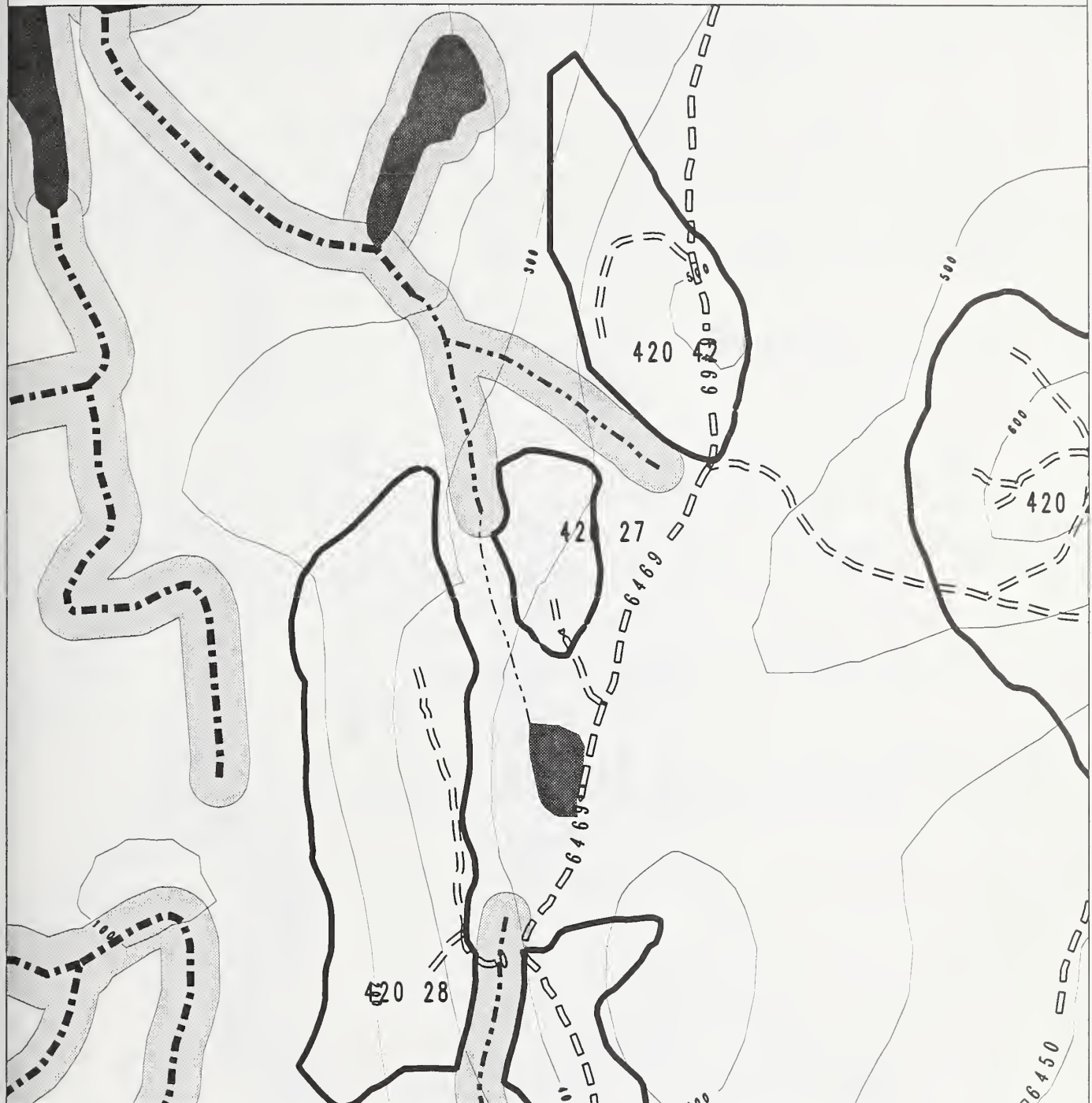
C. Unit Design

Southern boundary is adjacent to muskeg, providing protection from northern winds. Unit is located on the lee side of hill, protecting stream buffers from occasional south winds.

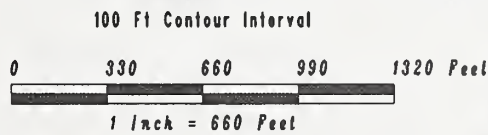
Buffer along the Class II to the north is intended to be extended width, greater than 100 feet.

UNIT MAP

420 - 27



UNIT BOUNDARY
 SETTING BOUNDARY
 EXISTING SPECIFIED ROAD
 PROPOSED SPECIFIED ROAD
 PROPOSED TEMPORARY ROAD
 HARVESTED UNIT
 UNIT HARVESTED BEFORE TTRA



F FULL SUSPENSION YARDING
 P PARTIAL SUSPENSION YARDING

[Hatched Box] SALTWATER
 [Hatched Box] 100' TTRA BUFFER
 [Hatched Box] LAKES
 - - - - - STREAM - CLASS I
 - - - - - STREAM - CLASS II
 - - - - - STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-28

Acres: 68 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 88 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 17 MBF/Acre Total Net Unit Volume: 1,154 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

North winds predominate - maintain windfirm stand along boundaries.

Class II streams within and adjacent to unit - maintain riparian buffers.

Class I stream located west of unit - maintain riparian buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers along Class I and II streams (BMP 12.6).

B. Transportation System

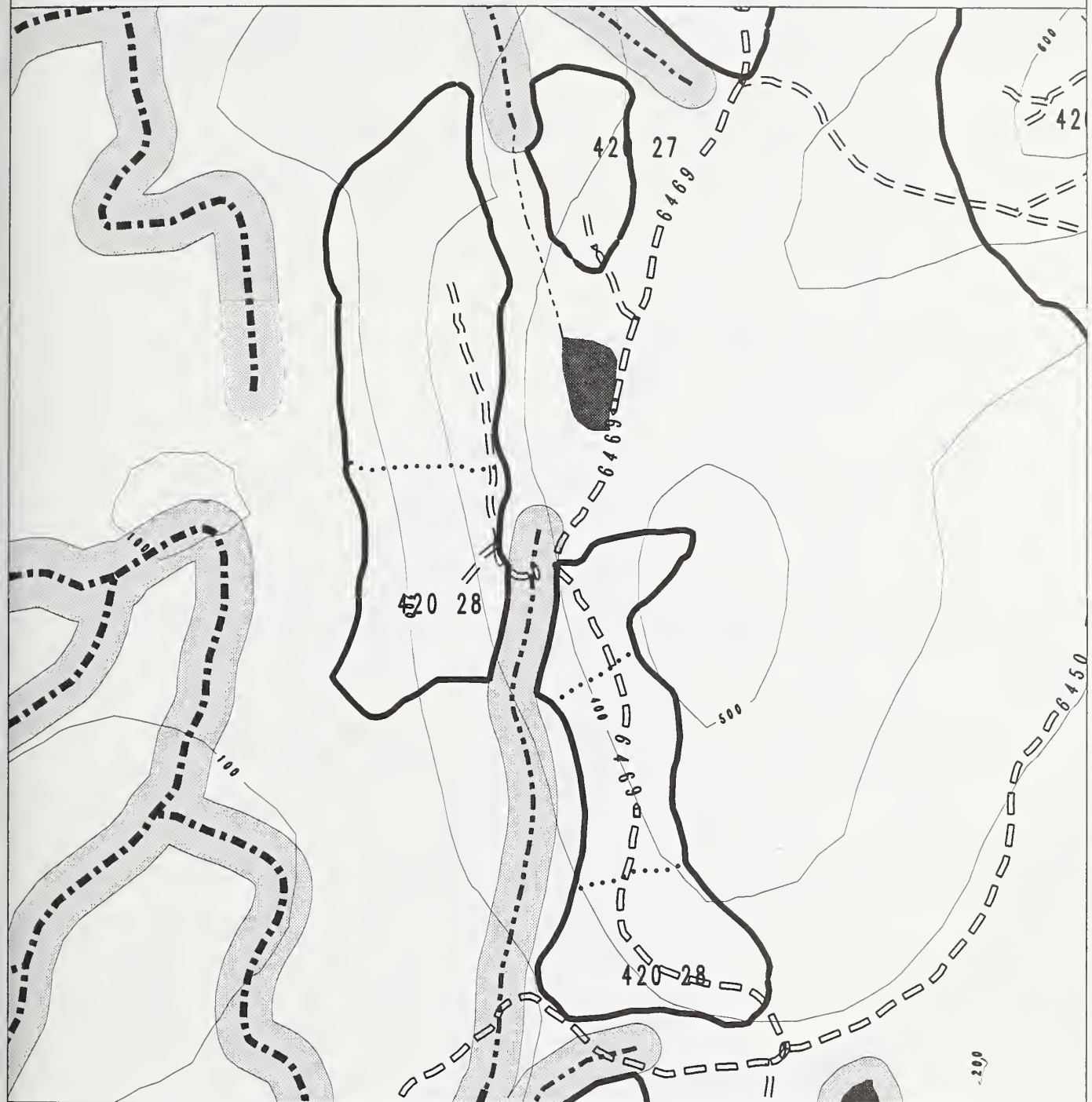
Spur roads and specified road 6469 accesses unit.

C. Unit Design

Unit surrounded by scrub timber and muskeg, providing protection from windthrow. Unit is oriented parallel to the predominant winds.

UNIT MAP

420 - 28



UNIT BOUNDARY
 SETTING BOUNDARY
 EXISTING SPECIFIED ROAD
 PROPOSED SPECIFIED ROAD
 PROPOSED TEMPORARY ROAD
 HARVESTED UNIT
 UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



F FULL SUSPENSION YARDING
 P PARTIAL SUSPENSION YARDING

SALTWATER
 100' TTRA BUFFER
 LAKES
 STREAM - CLASS I
 STREAM - CLASS II
 STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-30

Acres: 178 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 214 USGS 1/4 QUAD MAP #: PBG C6NW
Net Vol/Ac: 16 MBF/Acre Total Net Unit Volume: 2,773 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

North winds predominate - maintain windfirm stand along boundaries.
Class III streams within and adjacent to unit - maintain stream channel stability.
Class II stream adjacent to southeastern boundary - maintain riparian buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.
2. Aquatic Habitat:
Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).
Maintain a 100-foot buffer between Class II stream southeast of unit and unit boundary (BMP 12.6).

B. Transportation System

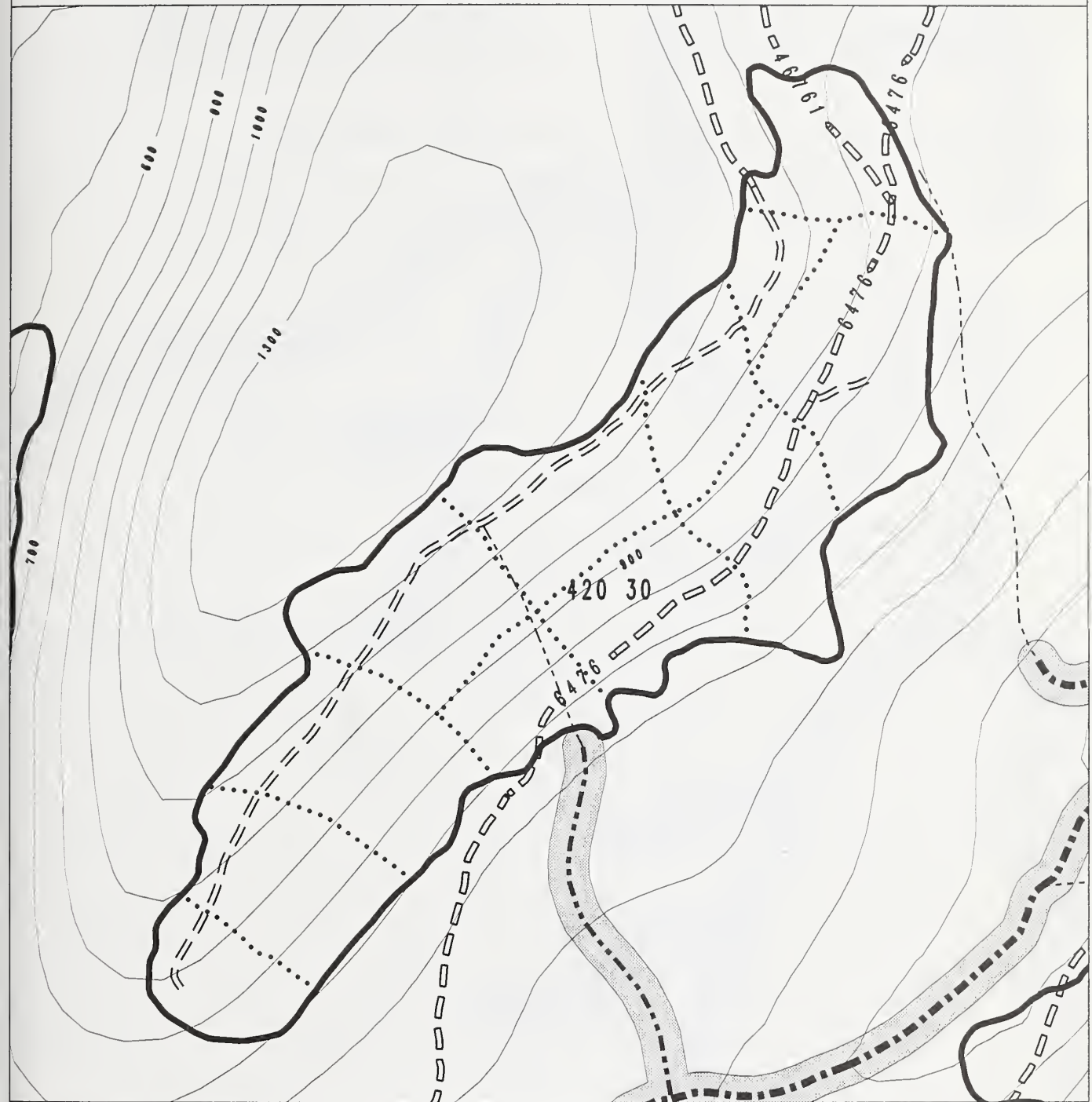
Road 6476 along bottom of unit is specified to point beyond switchback where it enters unit. Temporary spur then continues along top of unit.

C. Unit Design

Boundaries follow natural openings or shorter, windfirm stands.

UNIT MAP

420 - 30



	UNIT BOUNDARY	100 Ft Contour Interval			
	SETTING BOUNDARY	0 400 800 1200 1600 Feet			SALTWATER
	EXISTING SPECIFIED ROAD				100' TTRA BUFFER
		1 Inch = 800 Feet			LAKES
	PROPOSED SPECIFIED ROAD				STREAM - CLASS I
	PROPOSED TEMPORARY ROAD				STREAM - CLASS II
	HARVESTED UNIT	F	FULL SUSPENSION YARDING		STREAM - CLASS III
	UNIT HARVESTED BEFORE TTRA	P	PARTIAL SUSPENSION YARDING		

NORTH AND EAST KUIU UNIT PLAN

UNIT 420-31

Acres: 6 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 216 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 123 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

North winds predominate - maintain windfirm stand along boundaries.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

B. Transportation System

Spur road off of specified road 6451 accesses unit.

C. Unit Design

Boundaries follow natural openings or shorter, windfirm stands.

UNIT MAP

420 - 31



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-32

Acres: 104 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 216 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 2,027 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

North winds predominate - maintain windfirm stand along boundaries.

Class III stream north of unit - maintain stream channel stability.

Class I streams adjacent to unit - maintain riparian buffers.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

Maintain 100-foot buffers along Class I streams (BMP 12.6).

B. Transportation System

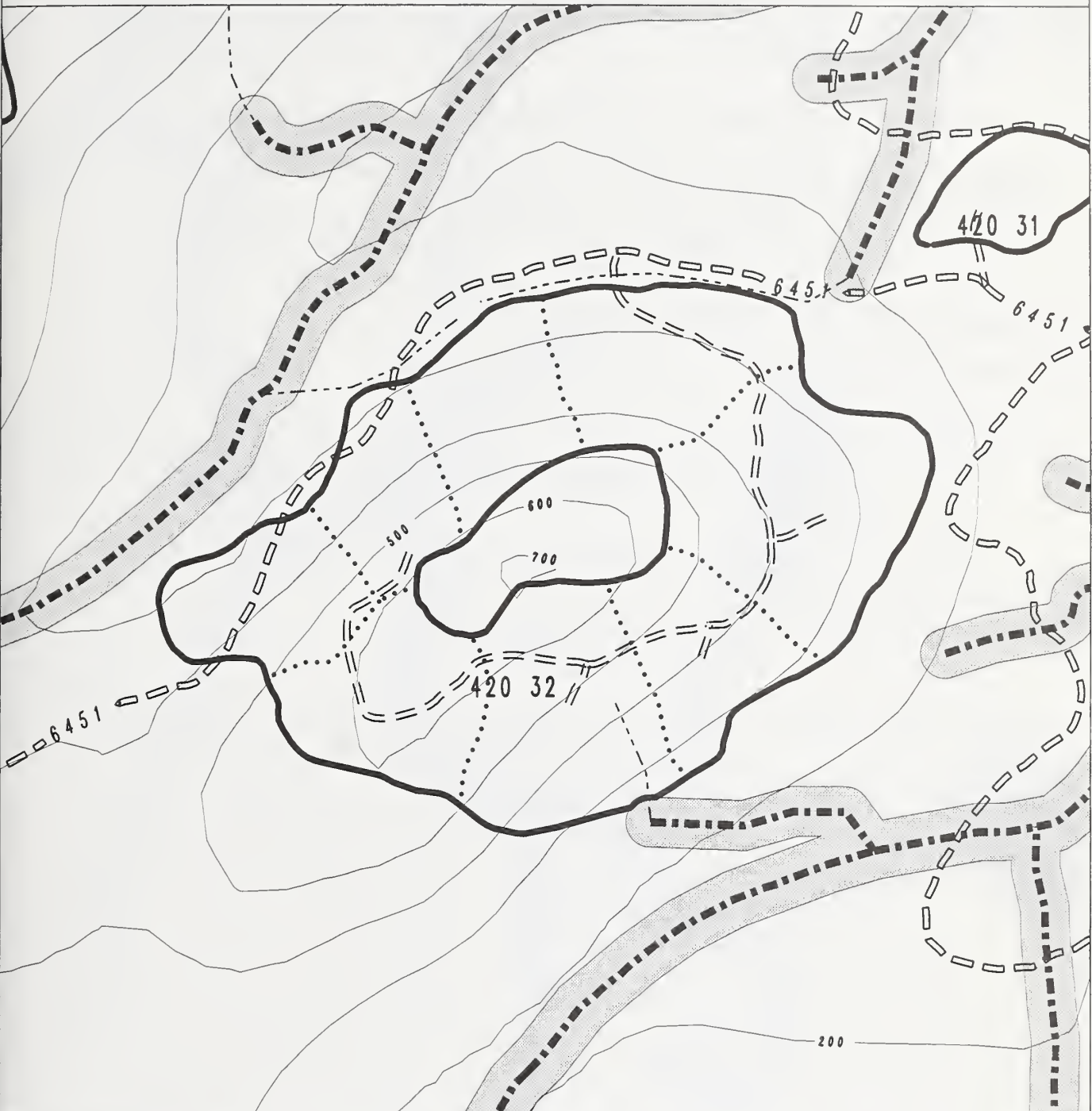
Specified road 6451 runs north of unit boundary. About one mile of spur climbs into unit.

C. Unit Design

Boundaries follow natural openings or shorter, windfirm stands.

UNIT MAP

420 - 32



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-33

Acres: 16 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 87 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 13 MBF/Acre Total Net Unit Volume: 208 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Northerly winds predominate - maintain windfirm stand along boundaries.
Class I and II streams adjacent to unit - maintain riparian buffers.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers along Class I and II streams (BMP 12.6).

B. Transportation System

Spur road from specified road 6450 accesses unit.

C. Unit Design

Buffers along Class I and II streams are parallel with prevailing northerly winds.

Southern boundary is stand of second growth timber originated from windthrow. It is expected to be windfirm.

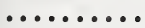
Buffer along the Class I is intended to be extended width, greater than 100 feet.

UNIT MAP

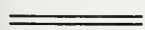
420 - 33



UNIT BOUNDARY



SETTING BOUNDARY



EXISTING SPECIFIED ROAD



PROPOSED SPECIFIED ROAD



PROPOSED TEMPORARY ROAD



HARVESTED UNIT



UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

F

FULL SUSPENSION YARDING

P

PARTIAL SUSPENSION YARDING



SALTWATER



100' TTRA BUFFER



LAKES



STREAM - CLASS I



STREAM - CLASS II



STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-34

Acres: 7 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 86 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 145 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Northerly winds predominate - maintain windfirm stand along boundaries.

Class III streams west and east of unit - maintain stream channel stability.

Lake north of unit - maintain wildlife travel corridor.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Wildlife:

Maintain 200-foot buffer between lake and unit for a wildlife travel corridor.

B. Transportation System

Specified road 6434 runs through unit.

C. Unit Design

Eastern boundary is parallel to prevailing winds, providing protection from windthrow. Boundaries follow scrub timber and muskegs, providing windfirmness.

Shovel yarding is recommended.

UNIT MAP

420 - 34



- | | | | | | |
|--|----------------------------|-------------------------|-----------------------------|--|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 | 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | | | | LAKES |
| | PROPOSED SPECIFIED ROAD | 1 inch = 660 Feet | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | | | STREAM - CLASS II |
| | HARVESTED UNIT | F | FULL SUSPENSION YARDOING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | P | PARTIAL SUSPENSION YARDOING | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-35

Acres: 5 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 86 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 20 MBF/Acre Total Net Unit Volume: 101 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Northerly winds predominate - maintain windfirm stand along boundaries.
Class I streams adjacent to unit - maintain riparian buffers.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffers along Class I streams (BMP 12.6).

B. Transportation System

Specified road 6434 runs through unit.

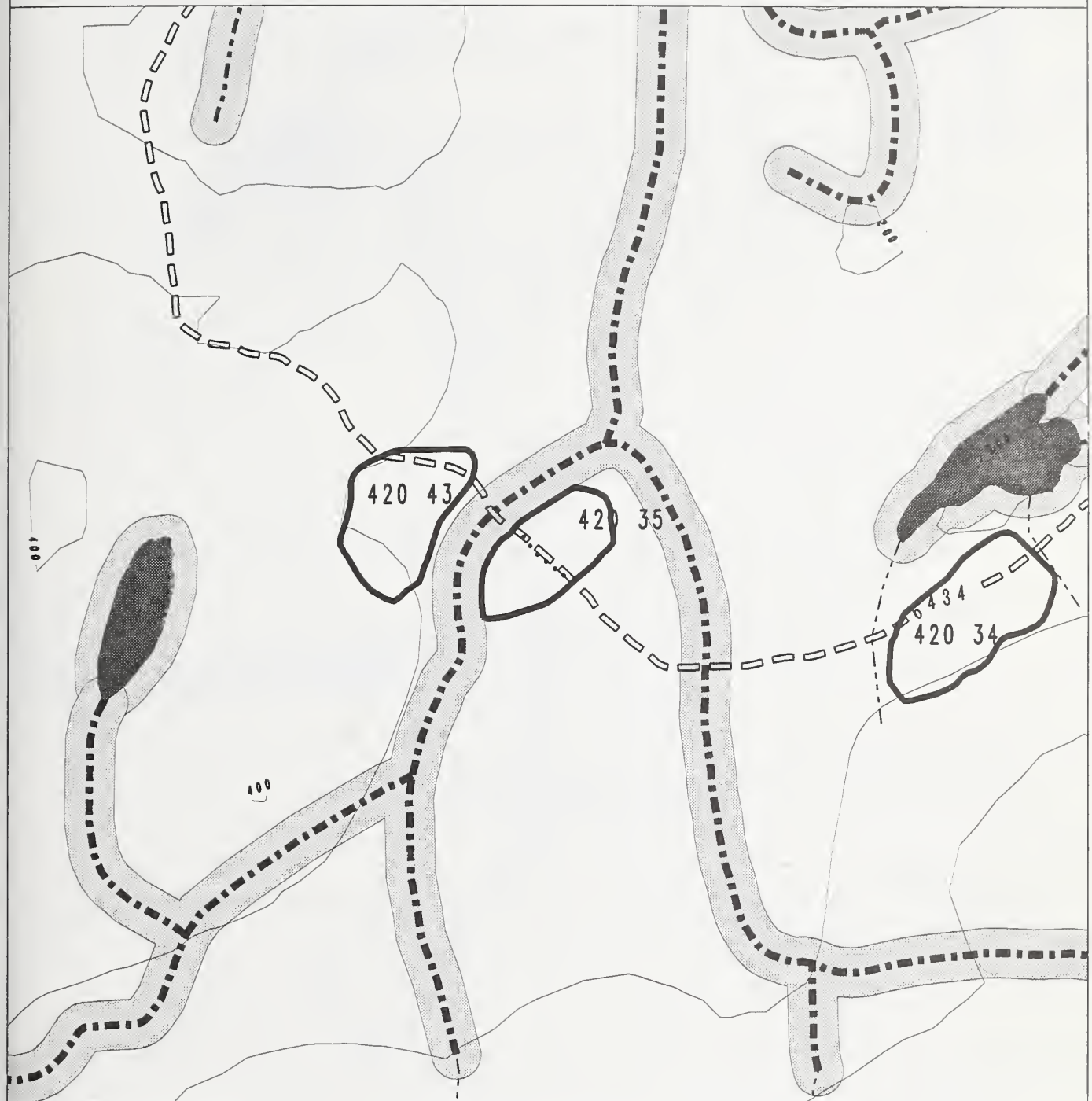
C. Unit Design

Boundaries follow natural openings or shorter, windfirm stands.

Shovel yarding is recommended.

UNIT MAP

420 - 35



UNIT BOUNDARY

SETTING BOUNDARY

EXISTING SPECIFIED ROAD

PROPOSED SPECIFIED ROAD

PROPOSED TEMPORARY ROAD

HARVESTED UNIT

UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 inch = 660 Feet

F FULL SUSPENSION YARDING

P PARTIAL SUSPENSION YARDING

SALTWATER

100' TTRA BUFFER

LAKES

STREAM - CLASS I

STREAM - CLASS II

STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-36

Acres: 53 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 86 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 932 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I stream adjacent to southwest boundary - maintain riparian buffer.

Class III streams within and adjacent to unit - maintain stream channel stability.

Northerly winds predominate - maintain windfirm stand along boundaries.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along Class I stream (BMP 12.6).

Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

B. Transportation System

Specified road 6434 runs along northwest boundary. Southern five settings are accessed by spur from top of ridge.

C. Unit Design:

Boundaries follow muskegs and scrub timber, providing protection from windthrow.

UNIT MAP

420 - 36



- | | | | | | |
|--|----------------------------|-------------------------|----------------------------|-------------------|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 330 660 990 1320 Feet | | 100' TTRA BUFFER | |
| | EXISTING SPECIFIED ROAD | 1 inch = 660 Feet | | | LAKES |
| | PROPOSED SPECIFIED ROAD | | | STREAM - CLASS I | |
| | PROPOSED TEMPORARY ROAD | | | STREAM - CLASS II | |
| | HARVESTED UNIT | F | FULL SUSPENSION YARDING | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | P | PARTIAL SUSPENSION YARDING | | |

NORTH AND EAST KUIU UNIT PLAN

UNIT 420-37

Acres: 57 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 86 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 1,074 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class III streams in unit - maintain stream channel stability.

Northerly winds predominate - maintain windfirm stand along boundaries.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III streams in unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Full suspension is planned.

B. Transportation System

Spur roads from specified road 6464 access unit.

C. Unit Design

Boundaries follow muskegs and scrub timber, providing protection from windthrow.

UNIT MAP

420 - 37



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-38

Acres: 50 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 46 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 1,037 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Unit is seen from salt water - meet VQO of Modification.
Northerly winds predominate - maintain windfirm stand along boundaries.
Unit located near beach - maintain wildlife travel corridors.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.
2. Wildlife Habitat:
Maintain beach fringe habitat buffer between unit and beach.
3. Visuals:
Unit is within the east Port Camden viewshed. Natural geological processes have resulted in a unique landscape creating benched, irregular landforms unique to the area.

B. Transportation System

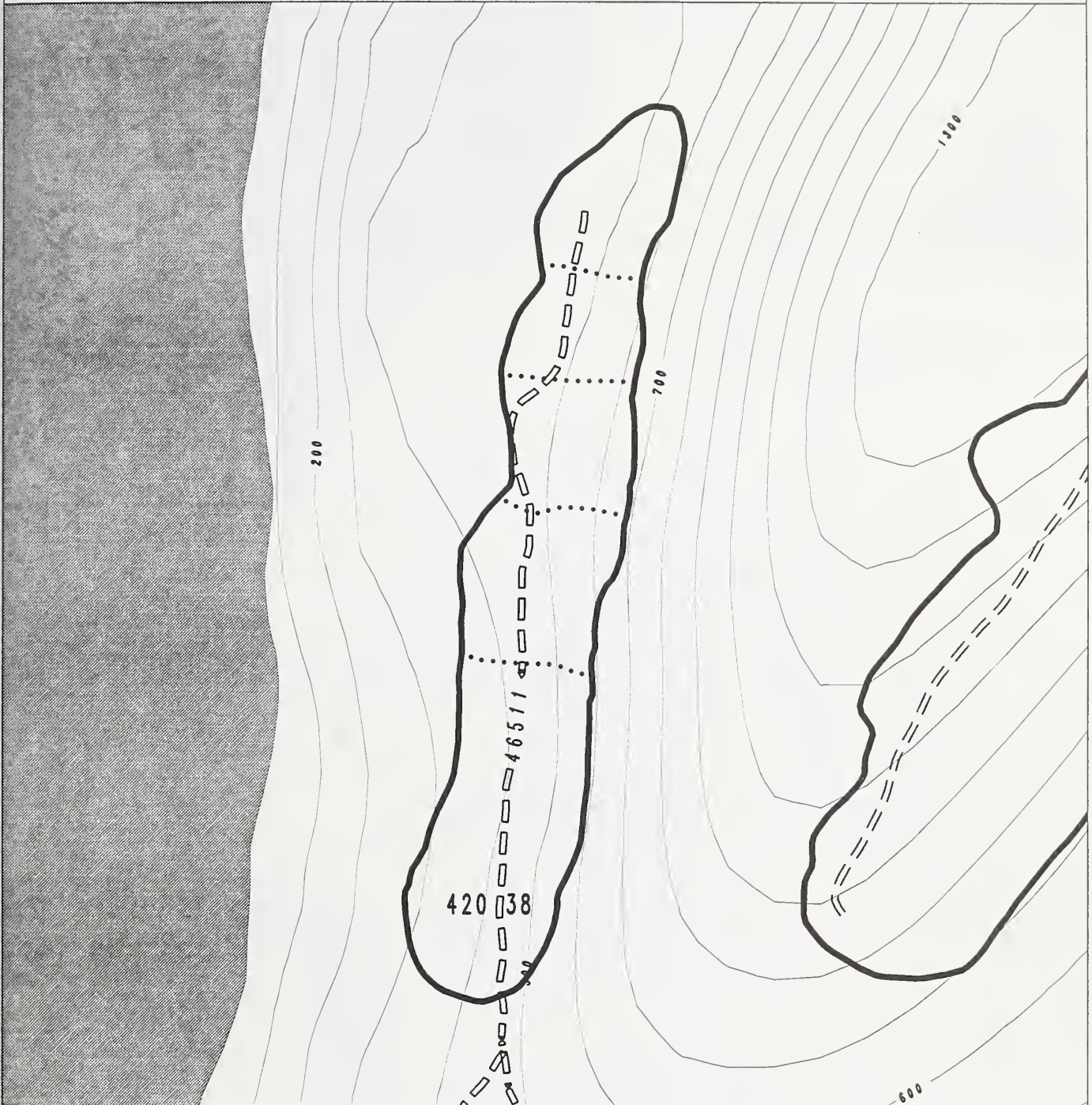
Road 46511 is specified to last landing in unit and will continue north in the future. Locate rock quarries in areas not seen from salt water.

C. Unit Design

Unit is oriented parallel to the prevailing winds and will dominate views as seen from Port Camden in the middle to background distance.

UNIT MAP

420 - 38



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

0 330 660 990 1320 Feet
1 Inch = 660 Feet

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-39

Acres: 15 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 45 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 267 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Northerly winds predominate - maintain windfirm stand along boundaries.
Unit is seen from salt water - meet VQOs of Partial Retention and Modification.
Unit located near beach - maintain beach fringe buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.
2. Wildlife Habitat:
Maintain buffer between unit boundary and beach to the northwest.
3. Visuals:
Unit is within the east Port Camden viewshed. Natural geological processes have resulted in a unique landscape creating benched, irregular landforms unique to the area.

B. Transportation System

Spur road from specified road 6451 accesses unit.
Locate rock quarries in areas not seen from salt water.

C. Unit Design

Boundaries to follow natural openings or shorter, windfirm stands.

UNIT MAP

420 - 39



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDOING
- P PARTIAL SUSPENSION YARDOING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-40

Acres: 26 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 45 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 16 MBF/Acre Total Net Unit Volume: 419 MBF

NORTH AND EAST KUIU UNIT PLAN

NEPA Unit #: 40 VCU: 420 Mgmt. Area: S09 Alternative: 2,3
Acres: 26 LUD: IV Aerial Photo Year: 1977 Flight: 13 Numbers: 44,45,46
Est. Net Vol/Ac: 16 MBF/Acre Est. Total Net Unit Volume: 419 MBF
USGS 1/4 QUAD MAP #: PBG C6 NW

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Northerly winds predominate - maintain windfirm stand along boundaries.
Unit is seen from salt water - meet VQO of Modification.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration,
certify natural regeneration, precommercial thin to maintain
healthy stand.

2. Visuals:

Unit is within the east Port Camden viewshed. Natural geological
processes have resulted in a unique landscape creating benched,
irregular landforms unique to the area.

B. Transportation System

Specified road 6451 runs along bottom of unit. Road 46512 into the unit is
also specified as there is suitable forest land beyond the end of this
unit.

Locate rock quarries in areas not seen from salt water.

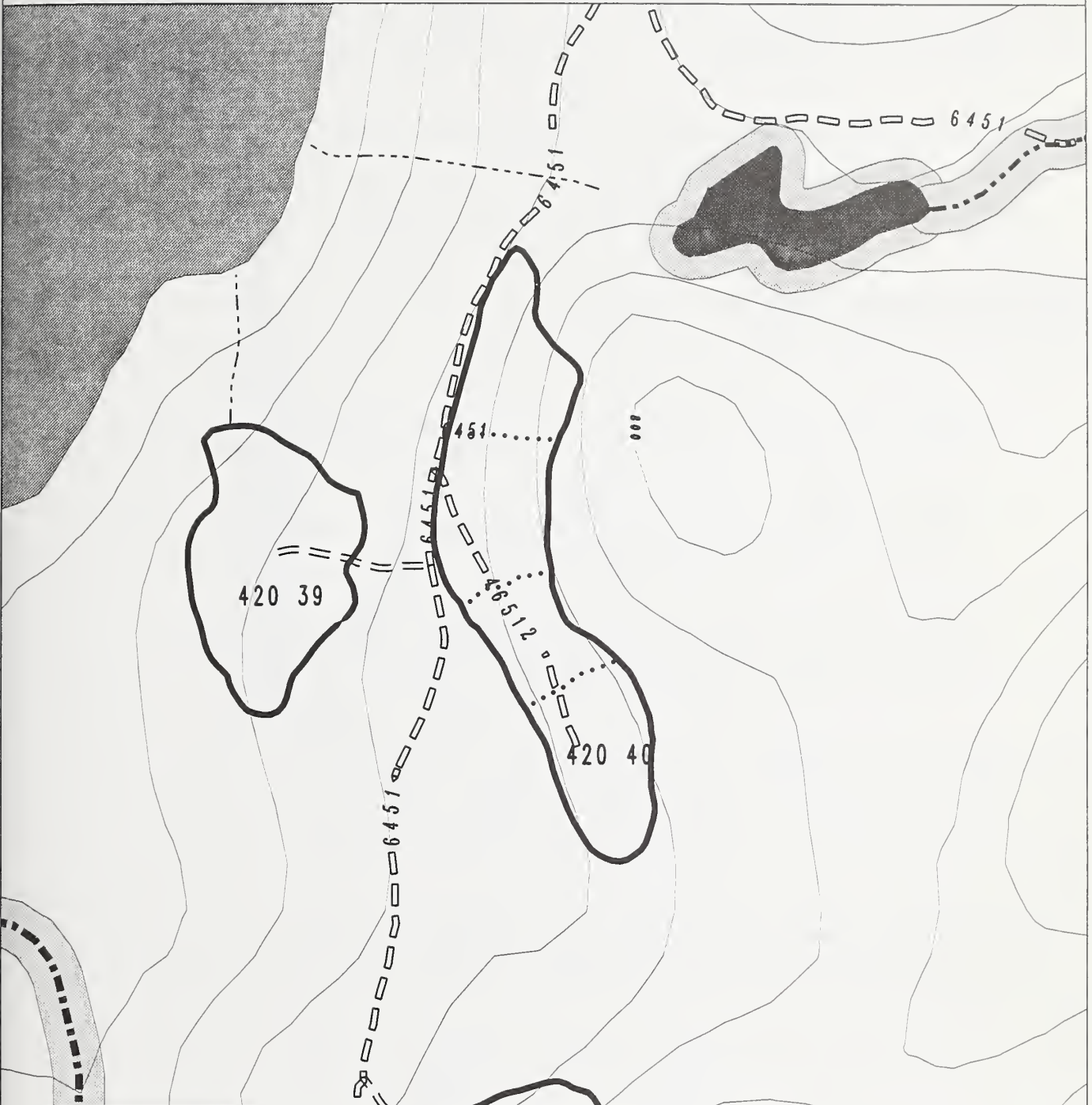
C. Unit Design

Western boundary follows base of cliffs.

Boundaries are oriented parallel to the prevailing winds.

UNIT MAP

420 - 40



100 Ft Contour Interval

- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-41

Acres: 36 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 44 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 20 MBF/Acre Total Net Unit Volume: 720 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class III stream in unit - maintain stream channel stability.
Northerly winds predominate - maintain windfirm stand along boundaries.
Unit is seen from salt water - meet VQO of Modification.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:
Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.
2. Aquatic Habitat:
Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). Splitlining is planned.
3. Visuals:
Unit is within the east Port Camden viewshed. Natural geological processes have resulted in a unique landscape creating benched, irregular landforms unique to the area.

B. Transportation System

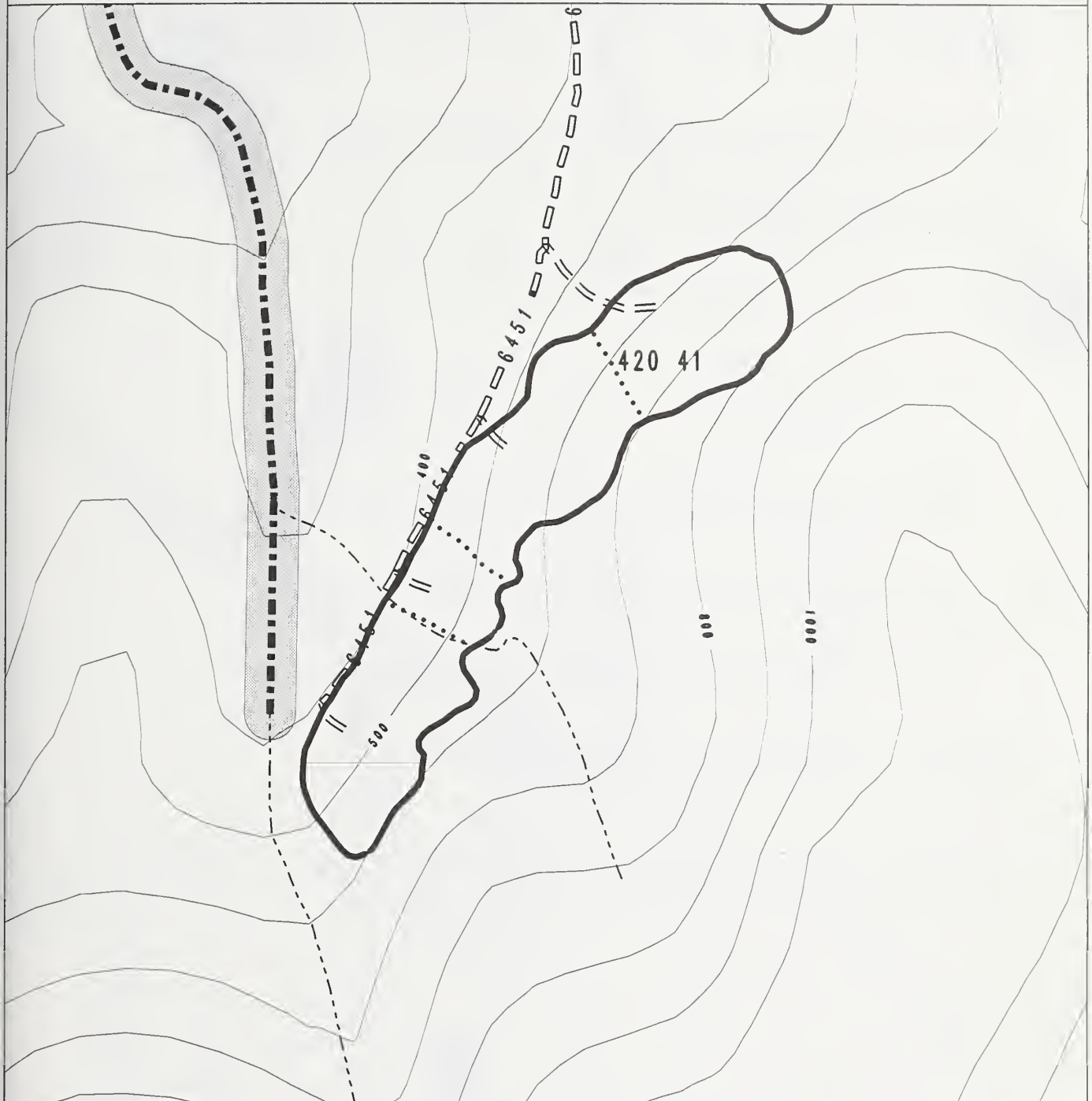
Road 6451 is specified to last landing in unit for access to suitable timber beyond unit.
Locate rock quarries in areas not seen from salt water.

C. Unit Design

The irregular boundary meets the visual quality objective.
Southwestern boundary provides a greater than 100-foot buffer to provide a windfirm buffer.

UNIT MAP

420 - 41



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-42

Acres: 20 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15, Photo# 88 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 15 MBF/Acre Total Net Unit Volume: 296 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class II stream south of unit - maintain riparian buffer.

Northerly winds predominate - maintain windfirm stand along boundaries.

Lake northwest of unit - maintain wildlife travel corridor.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along Class II stream (BMP 12.6).

3. Wildlife Habitat:

Maintain a buffer between unit and lake for wildlife.

B. Transportation System

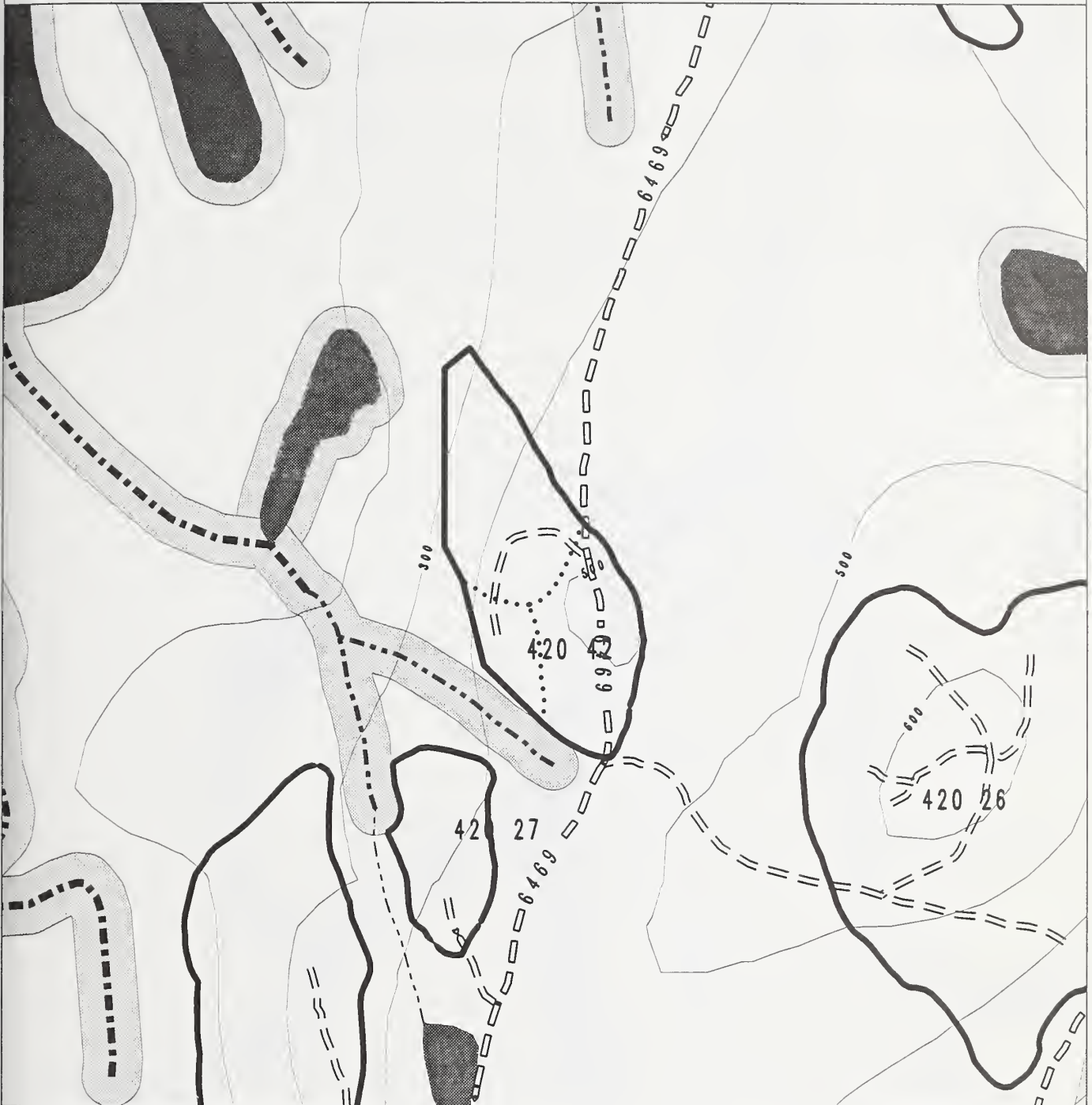
Specified road 6469 and spur roads access unit.

C. Unit Design

Boundaries follow natural openings or shorter, windfirm stands. Western boundary is oriented parallel to the prevailing winds.

UNIT MAP

420 - 42



- | | | | | | |
|--|----------------------------|-------------------------|----------------------------|--|--------------------|
| | UNIT BOUNDARY | 100 Ft Contour Interval | | | SALTWATER |
| | SETTING BOUNDARY | 0 | 330 660 990 1320 Feet | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | 1 inch = 660 Feet | | | LAKES |
| | PROPOSED SPECIFIED ROAD | | | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | | | STREAM - CLASS II |
| | HARVESTED UNIT | | | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | F | FULL SUSPENSION YARDING | | |
| | | P | PARTIAL SUSPENSION YARDING | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-43

Acres: 6 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 15 Photo# 86 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 105 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

Class I stream east of unit - maintain riparian buffer.

Lake west of unit - maintain wildlife travel corridor.

Northerly winds predominate - maintain windfirm stand along boundaries.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along Class I stream (BMP 12.6).

3. Wildlife Habitat:

Maintain 200-foot buffer between lake and western unit boundary.

B. Transportation System

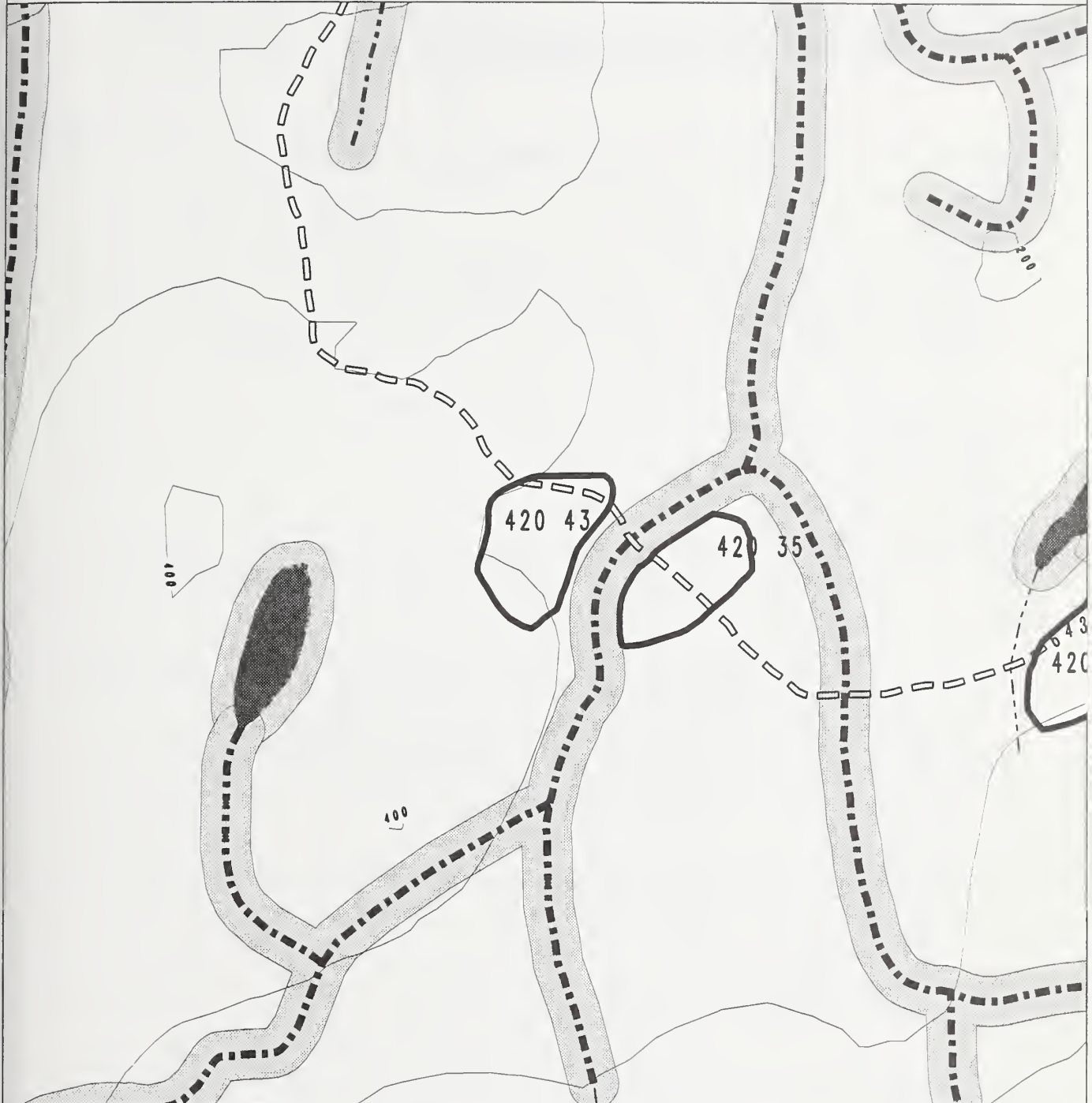
Specified road 6434 provides access.

C. Unit Design

Small size of unit is not expected to generate windthrow.

UNIT MAP

420 - 43



- 100 Ft Contour Interval
- 0 330 660 990 1320 Feet
- 1 Inch = 660 Feet
- | | | | |
|----------|----------------------------|--|--------------------|
| | UNIT BOUNDARY | | SALTWATER |
| | SETTING BOUNDARY | | 100' TTRA BUFFER |
| | EXISTING SPECIFIED ROAD | | LAKES |
| | PROPOSED SPECIFIED ROAD | | STREAM - CLASS I |
| | PROPOSED TEMPORARY ROAD | | STREAM - CLASS II |
| | HARVESTED UNIT | | STREAM - CLASS III |
| | UNIT HARVESTED BEFORE TTRA | | |
| F | FULL SUSPENSION YARDING | | |
| P | PARTIAL SUSPENSION YARDING | | |



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-45

Acres: 107 Alternative: 2,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 11, Photo# 100 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 2,057 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Four Class III streams within and adjacent to unit - maintain stream channel stability.

Protect Class II stream west of unit - maintain riparian buffer.

Alluvial fan in western portion of unit - protect soils.

Series of beaver ponds west of alluvial fan provides goose nesting habitat - protect habitat.

South winds predominate - maintain windfirm stand along boundaries.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain buffer of 100 feet along the Class II stream (BMP 12.6).

Class III streams within unit will be protected with contract provision B6.5c (BMP 13.16 E5, E9).

Unconfined Class III channel on western boundary of unit will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

Class III channel on southern boundary will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Wildlife Habitat:

Provide a buffer of 410 feet along the northwest boundary for geese nesting and a wildlife travel corridor.

B. Transportation System

One spur road is planned to access unit.

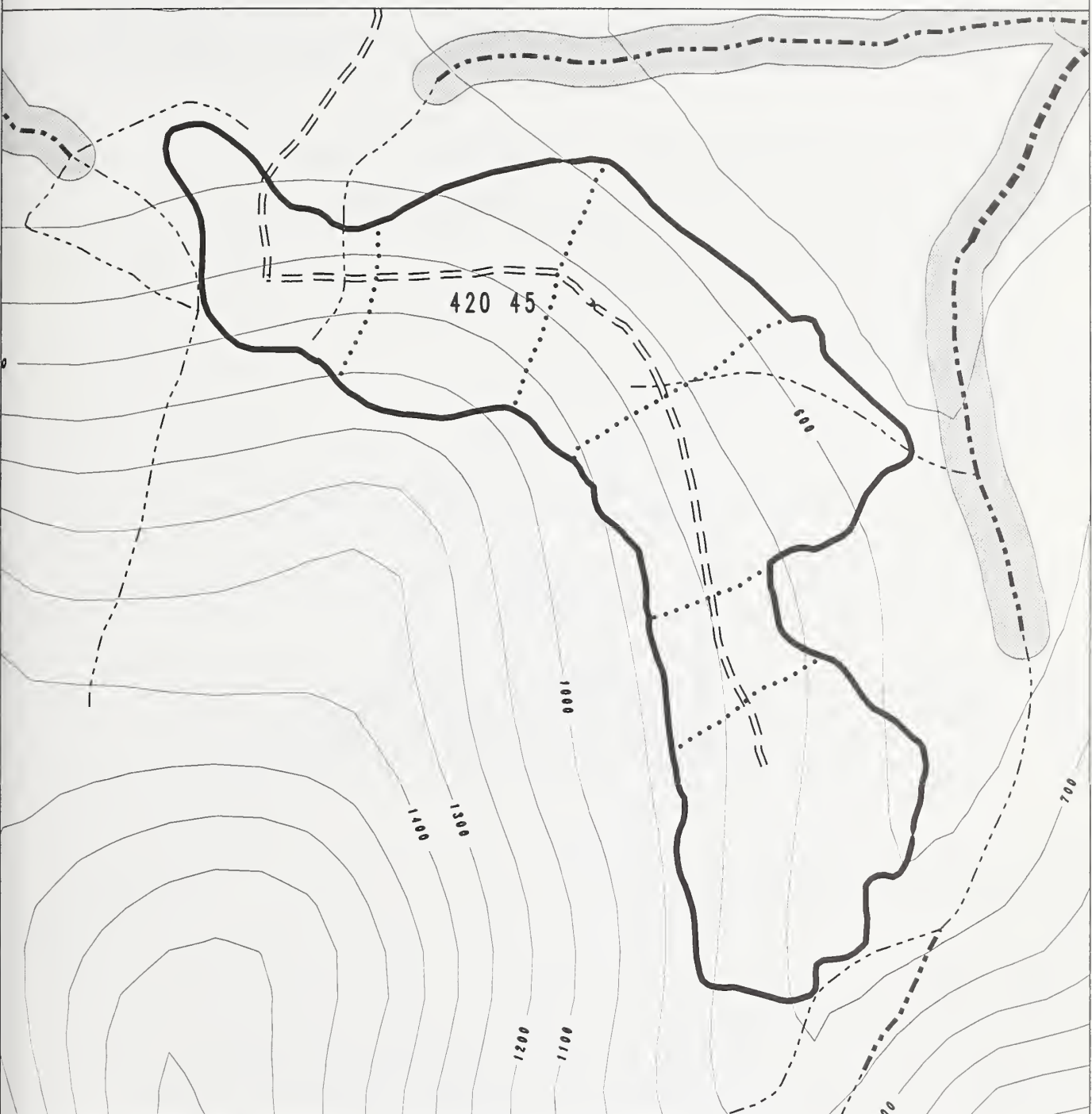
C. Unit Design

Northern boundary is adjacent to muskeg and scrub timber to prevent windthrow.

Shovel yard the western setting to protect alluvial soils.

UNIT MAP

420 - 45



- UNIT BOUNDARY**
- SETTING BOUNDARY**
- EXISTING SPECIFIED ROAD**
- PROPOSED SPECIFIED ROAD**
- PROPOSED TEMPORARY ROAD**
- HARVESTED UNIT**
- UNIT HARVESTED BEFORE TTRA**

100 Ft Contour Interval



- F FULL SUSPENSION YARING**
- P PARTIAL SUSPENSION YARING**

- SALTWATER**
- 100' TTRA BUFFER**
- LAKES**
- STREAM - CLASS I**
- STREAM - CLASS II**
- STREAM - CLASS III**



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-46

Acres: 34 Alternative: 2,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 51 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 712 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class III stream north of unit - protect riparian areas.
South winds predominate - maintain windfirm stand along boundaries.
Area of incompetent highly fractured volcaniclastic rock in area - avoid area.
Area visible from Port Camden - meet modification VQO.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Visuals:

Landscape viewed in the middleground from Port Camden. Past harvest activities are evident, yet work with features found in the characteristic landscape. Unit falls within the west Port Camden viewshed, future activities are designed to be consistent with the existing harvest patterns.

B. Transportation System

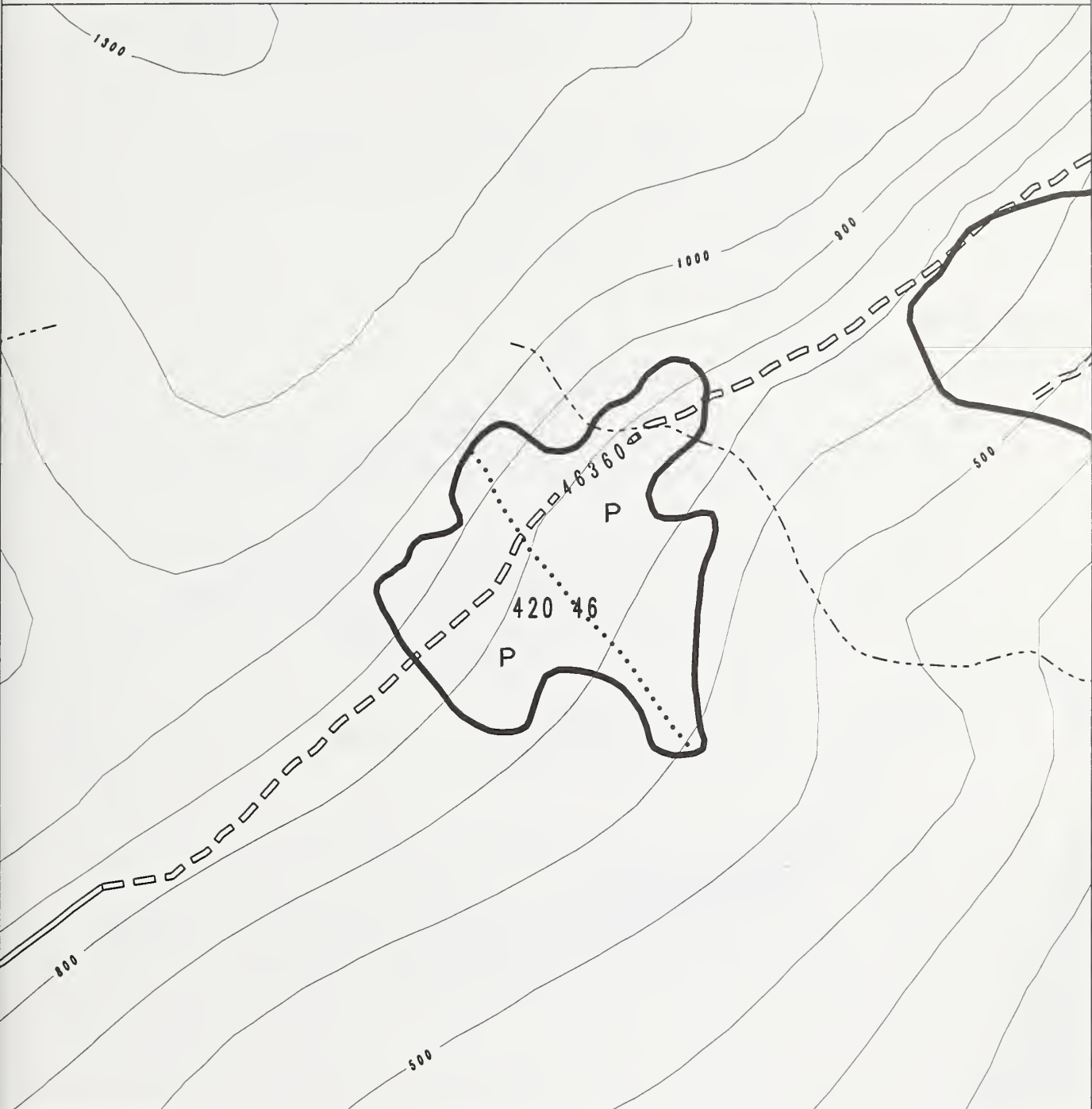
Specified road 46360 accesses unit.

C. Unit Design

Unit avoids area of highly fractured bedrock. Partial suspension is required for soils protection.
Upper backline is on steeper slopes where timber has developed a natural windfirmness due to topographic relation to the prevailing winds.
Irregular boundary and relationship to topographic features will ensure meeting the visual objective.

UNIT MAP

420 - 46



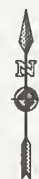
- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-47

Acres: 49 Alternative: 2,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 51 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 16 MBF/Acre Total Net Unit Volume: 763 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

South winds predominate - maintain windfirm stand along boundaries.
Area of incompetent highly fractured volcaniclastic rock in area - avoid area.
Unit is seen from salt water - meet VQO of Modification.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Visuals:

Landscape viewed in the middleground from Port Camden. Past harvest activities are evident, yet work with features found in the characteristic landscape. Unit falls within the west Port Camden viewshed, future activities are designed to be consistent with the existing harvest patterns.

B. Transportation System

Specified road 46360 and spur provides access.

C. Unit Design

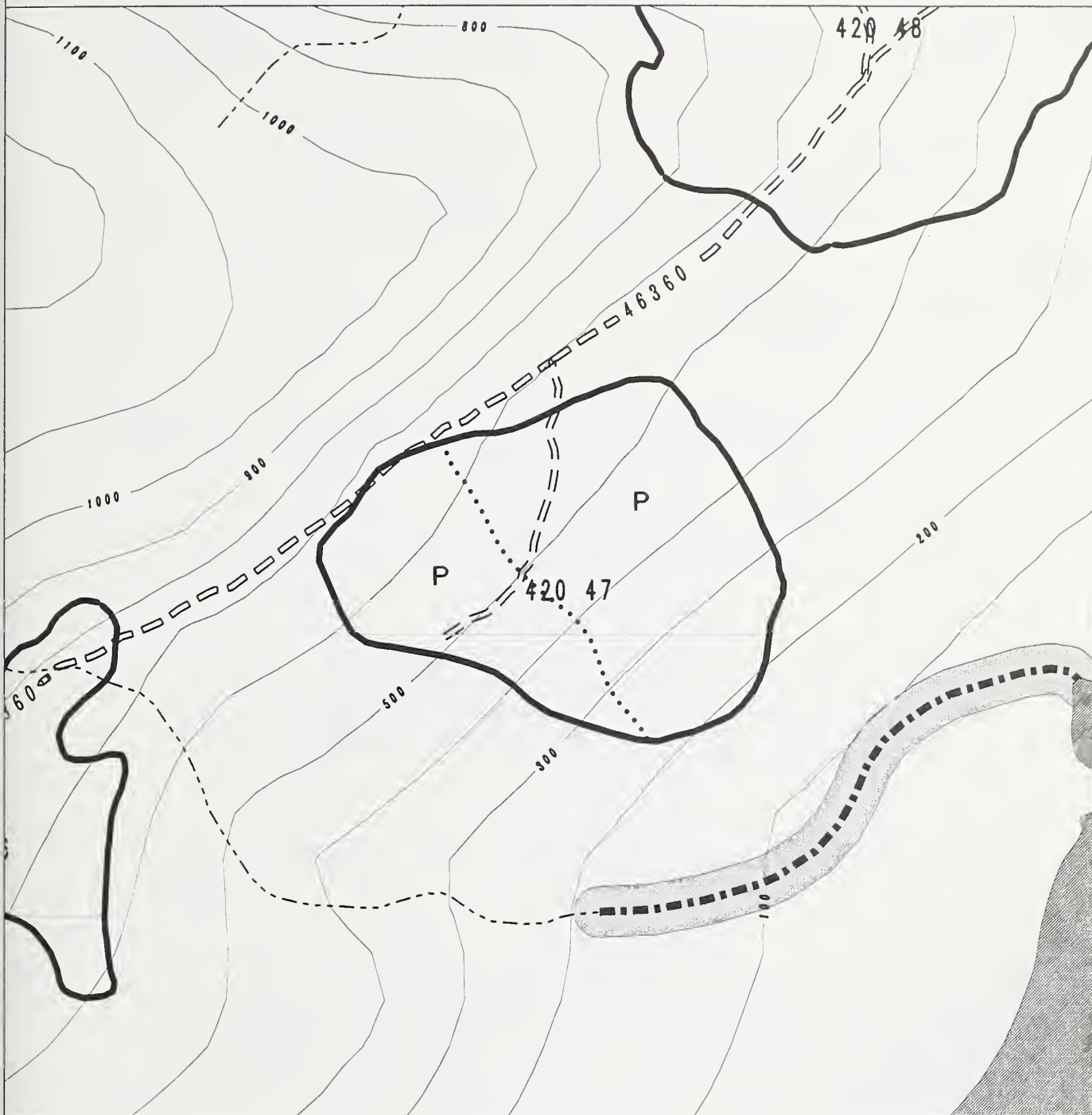
Unit avoids area of highly fractured bedrock. Partial suspension is required in unit to protect soils.

Upper backline is on steeper slopes where timber has developed a natural windfirmness due to topographic relation to the prevailing winds. Northern boundary takes advantage of muskeg to minimize risk of blowdown.

Unit shaped to minimize apparent size and work with topographic features found in the landscape.

UNIT MAP

420 - 47



UNIT BOUNDARY
 SETTING BOUNDARY
 EXISTING SPECIFIED ROAD
 PROPOSED SPECIFIED ROAD
 PROPOSED TEMPORARY ROAD
 HARVESTED UNIT
 UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



F FULL SUSPENSION YARDING
 P PARTIAL SUSPENSION YARDING

SALTWATER
 100' TTRA BUFFER
 LAKES
 STREAM - CLASS I
 STREAM - CLASS II
 STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-48

Acres: 48 Alternative: 2,4 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 13, Photo# 51 USGS 1/4 QUAD MAP #: PBG D6 SW
Net Vol/Ac: 19 MBF/Acre Total Net Unit Volume: 930 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class III stream north of unit - maintain stream channel stability.
Southerly winds predominate - maintain windfirm stand along boundaries.
Unit is seen from salt water - meet VQO of Modification.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, precommercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11). This stream is located outside of the unit boundary.

3. Visuals:

Landscape viewed in the middleground from Port Camden. Past harvest activities are evident, yet work with features found in the characteristic landscape. Unit falls within the west Port Camden viewshed, future activities are designed to be consistent with the existing harvest patterns.

B. Transportation System

Specified road 46360 ends at unit boundary. Spur road continues on into unit.

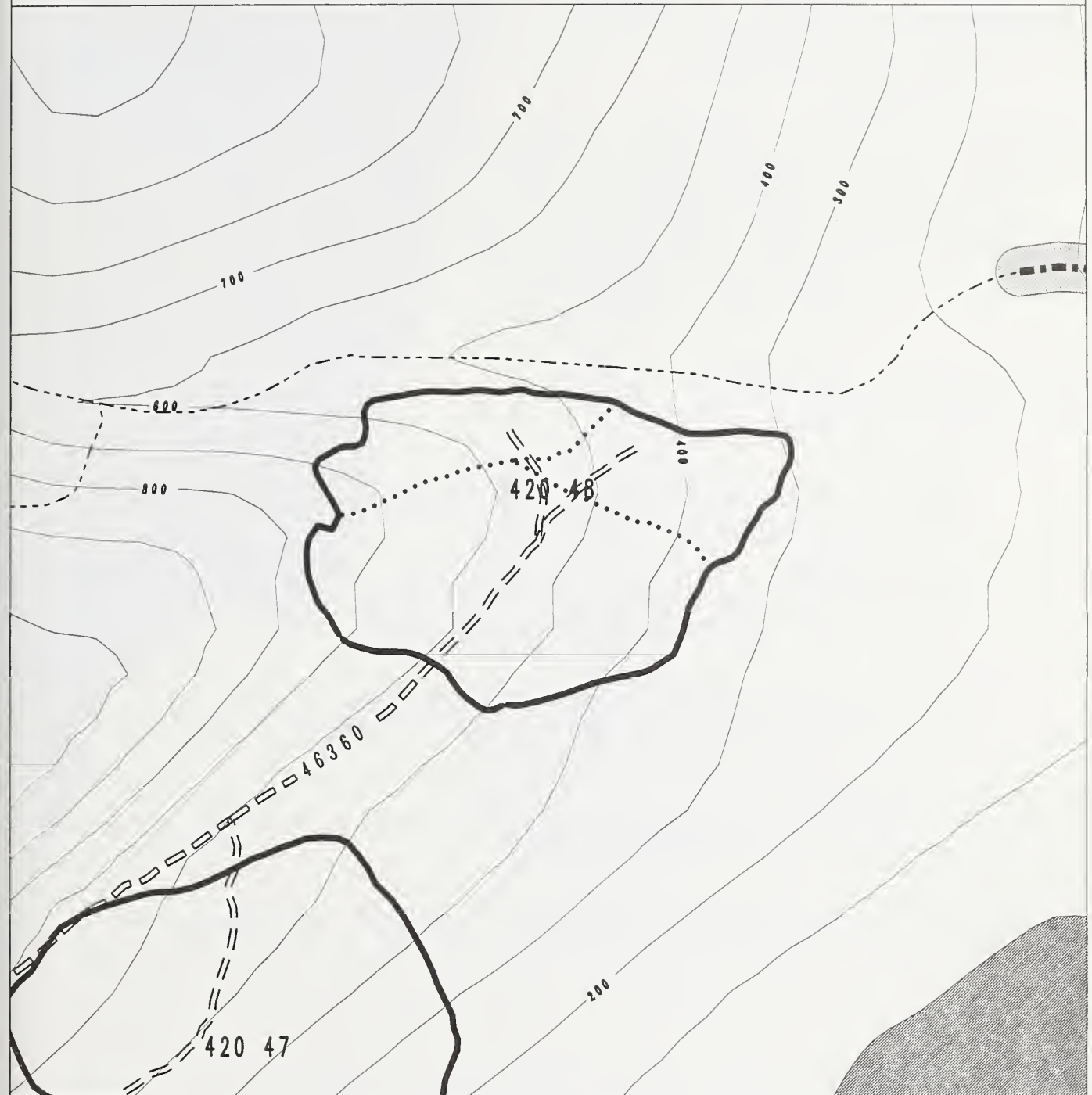
C. Unit Design

Northern boundary is located over the slope break of the Class II stream to protect buffer from wind, but still avoids the steepest areas of the streambank.

Lower boundary is intentionally irregular to meet visual objective.

UNIT MAP

420 - 48



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 420-49

Acres: 23 Alternative: 2,3 LUD: IV Mgmt. Area: S09
1977 Aerial Photo: Flight# 14, Photo# 214 USGS 1/4 QUAD MAP #: PBG C6 NW
Net Vol/Ac: 18 MBF/Acre Total Net Unit Volume: 416 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Note: Unit was originally laid out in 1979. Unit has been modified to conform to TTRA requirements.

North winds predominate - maintain windfirm stand along boundaries.

Landform highly visible from salt water - meet VQO of Partial Retention.

Unit located near beach - maintain wildlife travel corridor.

Eagle nest tree near unit - provide buffer.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Wildlife Habitat:

Maintain a beach fringe buffer for wildlife travel. Maintain a 330-foot radius buffer from identified eagle nest.

3. Visuals:

Unit is within the east Port Camden viewshed. Natural geological processes have resulted in a unique landscape creating benched, irregular landforms unique to the area.

B. Transportation System:

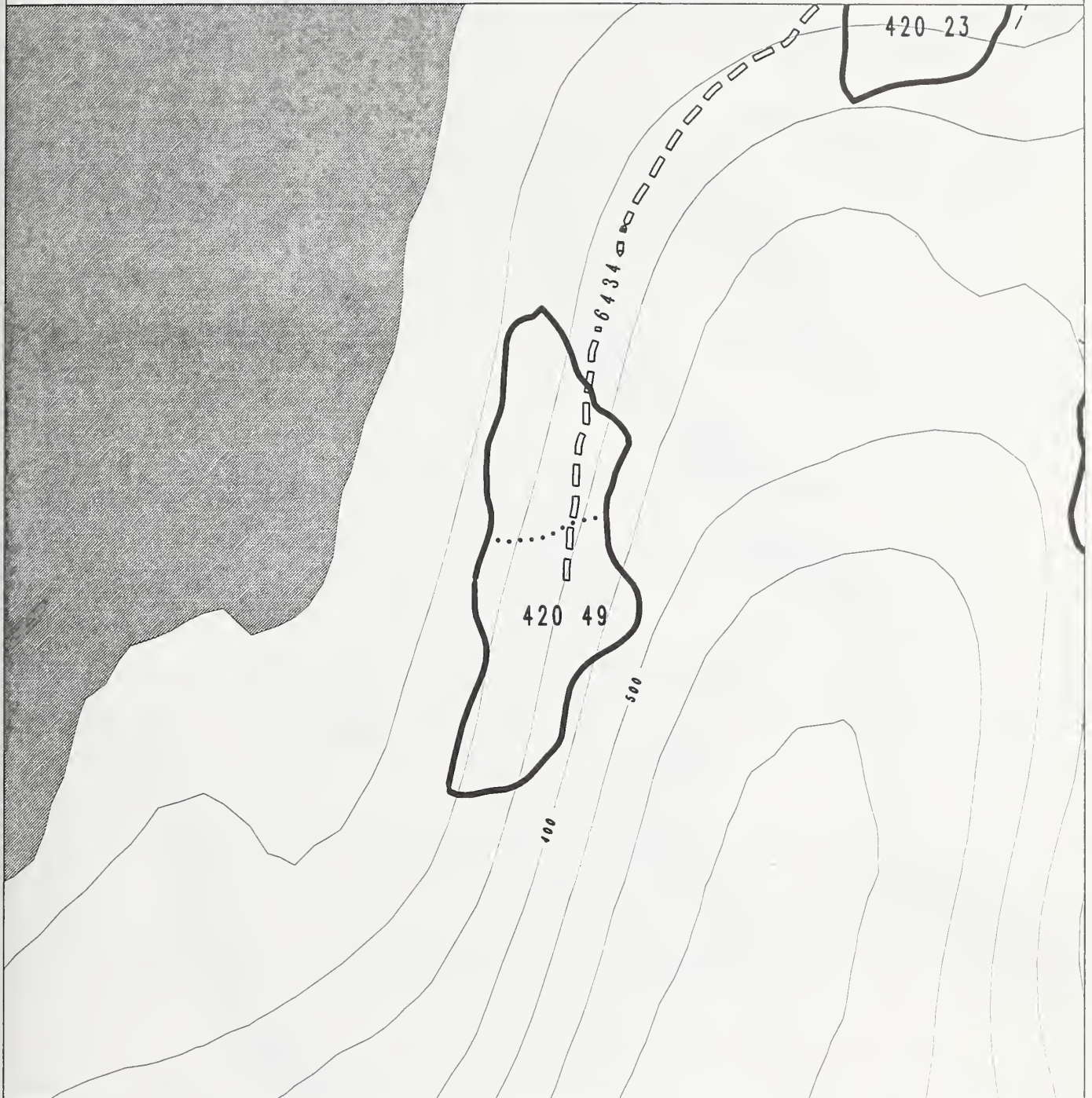
Specified road 6434 will proceed in future to other units. Locate rock quarries in areas not seen from salt water.

C. Unit Design:

Very little little windthrow is expected in this area. Boundaries should be windfirm.

UNIT MAP

420 - 49



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPDRARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

- F FULL SUSPENSION YARDING
- P PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-37

Acres: 71 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 11, Photo# 100 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 17 MBF/Acre Total Net Unit Volume: 1,202 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Deeply incised Class II stream on northeast side of unit - maintain riparian buffer.
Wildlife travel corridor between units 421-37 and 421-38 - maintain corridor.
Southeast winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystem Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along Class II stream on northeast side of unit (BMP 12.6).

3. Wildlife:

Maintain a wildlife corridor between this unit and 421-38.

B. Transportation System

Specified road to unit boundary. Spur roads inside unit will access ridge system.

C. Unit Design

Class II stream buffer is parallel to prevailing southeast winds and should be windfirm.

Northwest boundary is adjacent to muskeg and scrub timber providing protection from windthrow.

Northeast boundary of unit is along the Class II stream is to be kept at the lip of the notch or 100 feet, whichever is furthest from the stream channel.

UNIT MAP

421 - 37



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-38

Acres: 90 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 11, Photo# 100 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 20 MBF/Acre Total Net Unit Volume: 1,800 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class III streams within and adjacent to unit - maintain stream channel stability.

Class II streams adjacent to unit - maintain riparian buffer.

Maintain 600-foot wildlife travel corridor between units 421-37 and 421-38 - provide travel corridor.

Moderately unstable soils in unit - maintain soil stability.

South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along Class II streams south and northwest of unit (BMP 12.6).

Class III streams will be protected under contract provision B6.5b (BMP 13.16 E5, E9, E11).

3. Wildlife:

Maintain a wildlife corridor between this unit and 421-37.

B. Transportation System

Specified road is located along a bench in upper portion of unit. Short spurs will be needed to edge of slope break.

C. Unit Design

Lower portion of north boundary may be susceptible to windthrow, but does have some topographic protection. Upper portion of boundary borders brush field providing protection from windthrow.

Partial suspension required in unit to protect unstable soils.

UNIT MAP

421 - 38



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F** FULL SUSPENSION YARDING
- P** PARTIAL SUSPENSION YARDING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-40

Acres: 28 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 11, Photo# 401 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 20 MBF/Acre Total Net Unit Volume: 553 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Deeply incised Class III stream west of unit - maintain stream channel stability.

South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Leave windfirm buffer of non-merchantable vegetation to protect streambank stability (BMP 13.16 E2). Remove logging debris within buffer (BMP 13.16 E5). Stream will be protected by contract provision B6.5b (BMP 13.16 E5, E9, E11).

B. Transportation System

Specified system road 6420 is planned to access unit. No spurs planned.

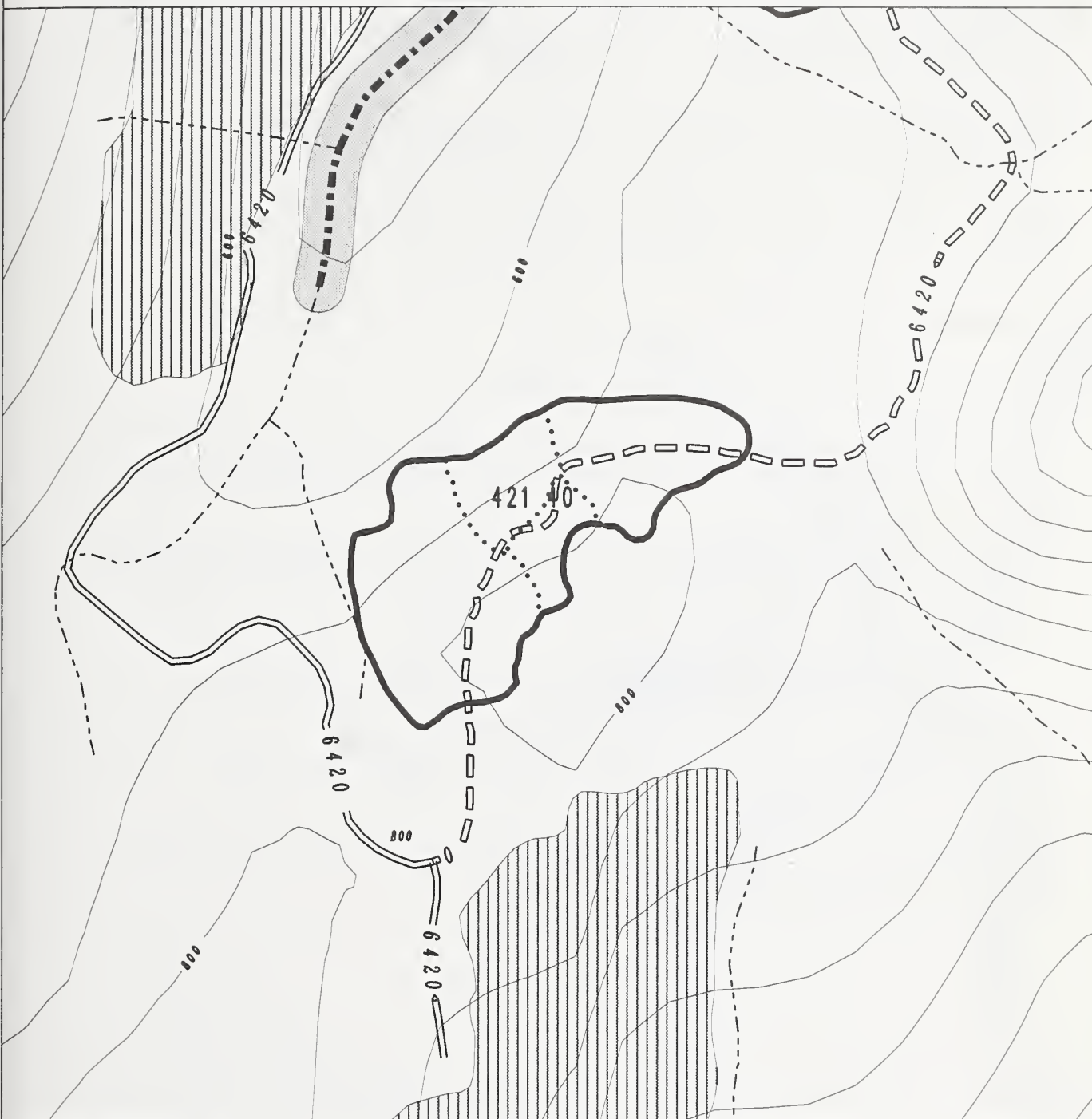
C. Unit Design

Use upper bank of notch of the Class III stream on west side of unit as boundary.

Western boundary is parallel to winds providing windfirmness. North boundary is along windfirm scrub muskeg.

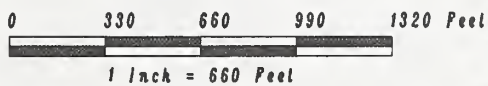
UNIT MAP

421 - 40



- UNIT BOUNDARY
- SETTING BOUNDARY
- EXISTING SPECIFIED ROAD
- PROPOSED SPECIFIED ROAD
- PROPOSED TEMPORARY ROAD
- HARVESTED UNIT
- UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



- F FULL SUSPENSION YARDOING
- P PARTIAL SUSPENSION YARDOING

- SALTWATER
- 100' TTRA BUFFER
- LAKES
- STREAM - CLASS I
- STREAM - CLASS II
- STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-41

Acres: 40 Alternative: 2,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 10, Photo# 51 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 872 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Wildlife travel corridor between unit and previously harvested unit to the north - maintain travel corridor.
Protect Class II streams along unit boundary - maintain riparian buffers.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Wildlife:

A corridor of approximately 1,000 feet was placed between the unit and the previously harvested unit to the north to provide for a wildlife travel corridor.

3. Aquatic Management:

Maintain buffers of 100 feet from Class II streams (BMP 12.6).

B. Transportation System

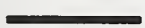
Unit lies between and along existing roads 6424 and 6429; no new construction is proposed.

C. Unit Design

Predominant winds are not strong enough to be destructive in this area as evidenced by the existing buffers in the area.
Shovel yard on the lower setting.

UNIT MAP

421 - 41



UNIT BOUNDARY



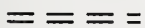
SETTING BOUNDARY



EXISTING SPECIFIED ROAD



PROPOSED SPECIFIED ROAD



PROPOSED TEMPORARY ROAD



HARVESTED UNIT



UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval



F
P

FULL SUSPENSION YARING

PARTIAL SUSPENSION YARING



SALTWATER



100' TTRA BUFFER



LAKES



STREAM - CLASS I



STREAM - CLASS II



STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-45

Acres: 61 Alternative: 2,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 9, Photo# 140 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 33 MBF/Acre Total Net Unit Volume: 2,005 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class II stream west of unit - maintain riparian buffer.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Unit boundary is 200 feet or more from Class II stream providing adequate protection.

B. Transportation System

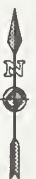
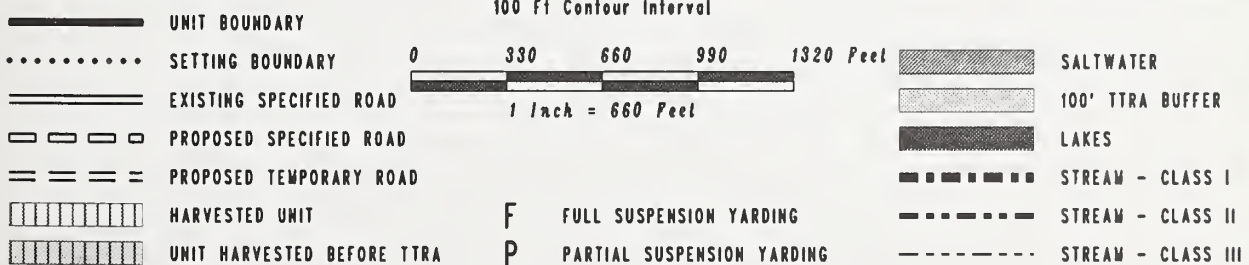
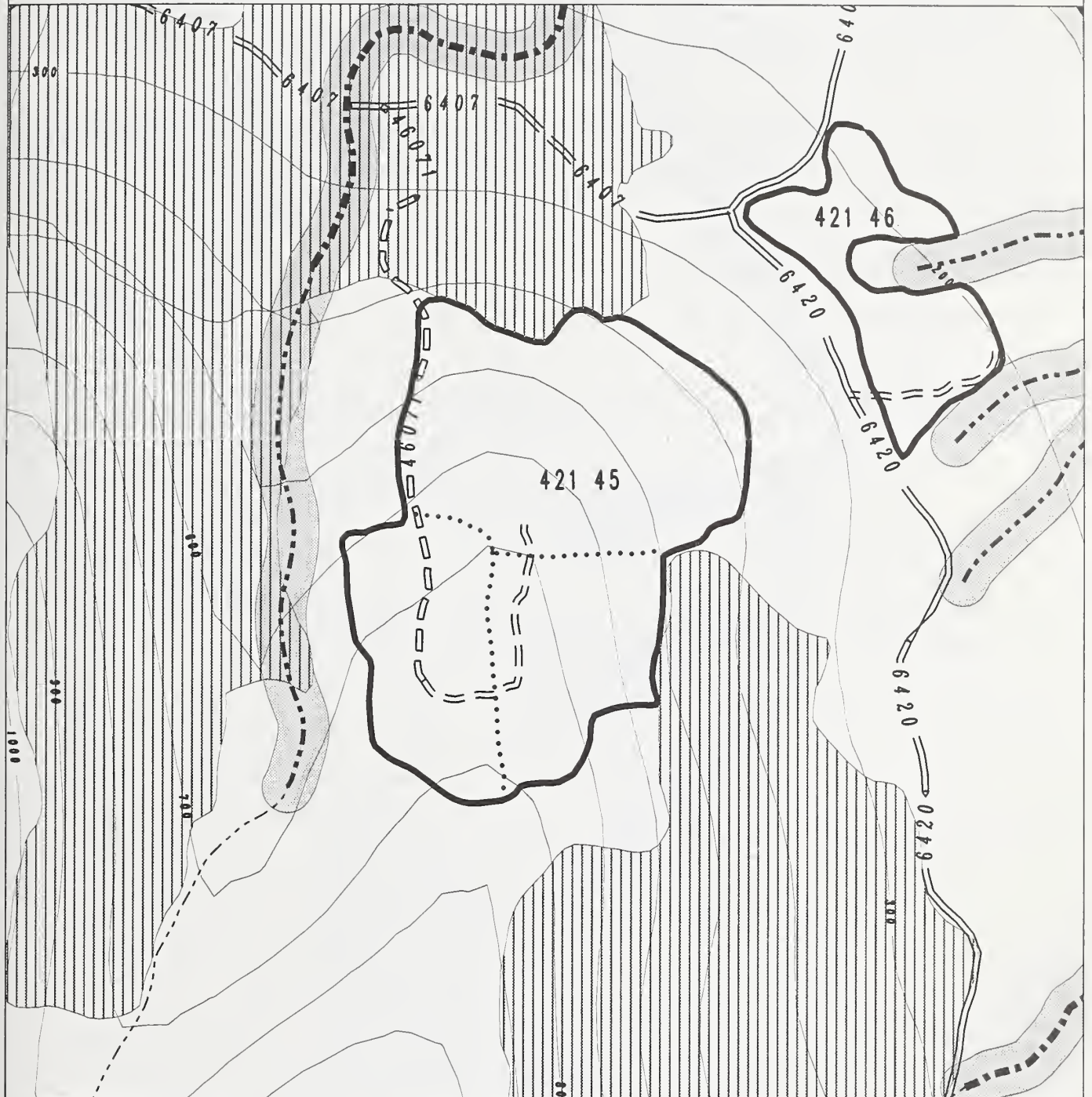
Specified road 46071 up to saddle where it switches back to the east. There may be a junction at this location in the future. The road on the ridgetop will be a temporary spur.

C. Unit Design

Northwestern boundary follows the road which is running through scrub timber. Southwestern boundary is at the top of the slope going down into the Class II stream. Northern boundary is adjacent to existing opening providing protection from windthrow. Shovel yarding on southwest setting. Remainder of unit is planned for running skyline.

UNIT MAP

421 - 45



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-46

Acres: 26 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 9, Photo# 140 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 15 MBF/Acre Total Net Unit Volume: 383 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Two Class II streams adjacent to unit - maintain riparian buffers.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain buffer of 100 feet from Class II streams (BMP 12.6).

B. Transportation System

The unit lies along existing road 6420.

C. Unit Design

Small size of opening will minimize the risk of windthrow.

UNIT MAP

421 - 46



	UNIT BOUNDARY	100 Ft Contour Interval			SALTWATER
	SETTING BOUNDARY	0	330		100' TTRA BUFFER
	EXISTING SPECIFIED ROAD	660	990		LAKES
	PROPOSED SPECIFIED ROAD	1320 Feet			STREAM - CLASS I
	PROPOSED TEMPORARY ROAD	1 Inch = 660 Feet			STREAM - CLASS II
	HARVESTED UNIT	F	FULL SUSPENSION YARDING		STREAM - CLASS III
	UNIT HARVESTED BEFORE TTRA	P	PARTIAL SUSPENSION YARDING		



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-49

Acres: 99 Alternative: 2,4 LUD: IV Mgmt. Area: SO4
1977 Aerial Photo: Flight# 9, Photo# 145 USGS 1/4 QUAD MAP #: PTA D1 SE
Net Vol/Ac: 27 MBF/Acre Total Net Unit Volume: 2,624 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I and II stream on western boundary - maintain riparian buffers.
Class III stream on northwest corner - maintain stream channel stability.
Western boundary stream is deeply incised with unstable stream banks -
avoid unstable soils.
Southwest winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain 100-foot buffer along Class I and II stream on west boundary (BMP 12.6).

Class III stream will be protected by contract provision B6.5b (BMP 13.16 E5, E9, E11).

B. Transportation System

Specified road 46152 runs through this unit and continues to the east.
Specified road 46154 accesses northern landing and may continue in the future.

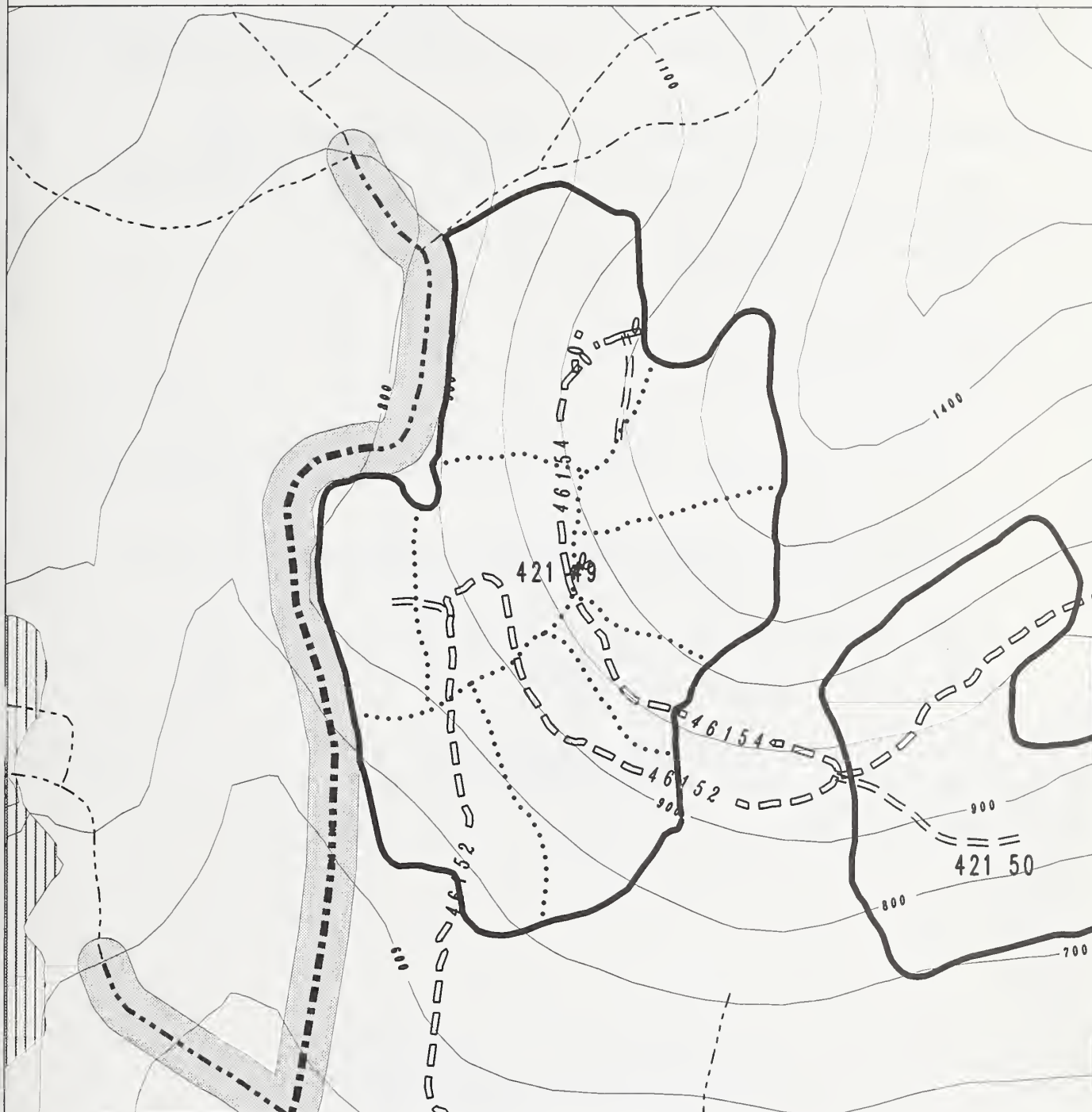
C. Unit Design

Locate unit boundary at the upper slope break of the incised v-notch (more than 100 feet away from stream).

Stream buffer is undisturbed on the west side, so should remain windfirm.
There is some windthrow risk to the eastern upper boundary.

UNIT MAP

421 - 49



UNIT BOUNDARY



SETTING BOUNDARY



EXISTING SPECIFIED ROAD



PROPOSED SPECIFIED ROAD



PROPOSED TEMPORARY ROAD



HARVESTED UNIT



UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet



1 Inch = 660 Feet

F

FULL SUSPENSION YARDOING

P

PARTIAL SUSPENSION YARDOING



SALTWATER



100' TTRA BUFFER



LAKES



STREAM - CLASS I



STREAM - CLASS II



STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-50

Acres: 38 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 9, Photo# 145 USGS 1/4 QUAD MAP #: PTA D1 SE
Net Vol/Ac: 21 MBF/Acre Total Net Unit Volume: 782 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class III stream to the east of unit - maintain stream channel stability.
Stream to the east is deeply incised with unstable stream banks - avoid
unstable soils.
Southwest winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify
natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Unit has 200-foot buffer along Class III stream to the east (BMP 12.6)
which provides adequate protection.

B. Transportation System:

Specified road 46152 continues through northern setting. Spur road will
access southern setting.

C. Unit Design:

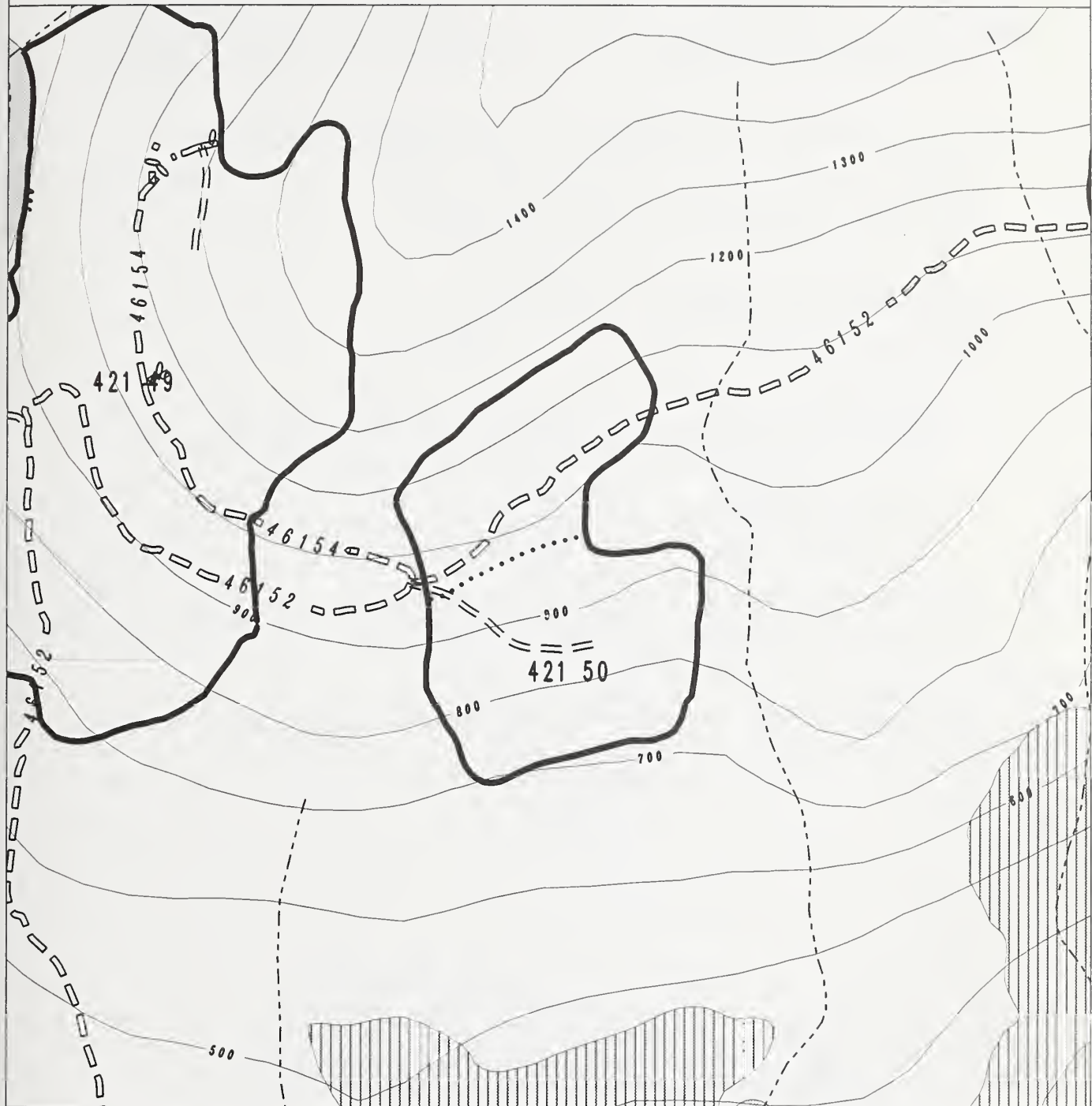
Eastern boundary follows scrubby windfirm timber.

Minimize sharp corners during unit layout to ensure meeting inventoried VQO
of Modification.

The 200-foot buffer along the Class III was designed to stay out of the
steep V-notch.

UNIT MAP

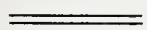
421 - 50



UNIT BOUNDARY



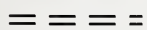
SETTING BOUNDARY



EXISTING SPECIFIED ROAD



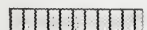
PROPOSED SPECIFIED ROAD



PROPOSED TEMPORARY ROAD



HARVESTED UNIT



UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet



1 Inch = 660 Feet



SALTWATER



100' TTRA BUFFER



LAKES



STREAM - CLASS I



STREAM - CLASS II



STREAM - CLASS III

F

FULL SUSPENSION YARDING

P

PARTIAL SUSPENSION YARDING



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-51

Acres: 57 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 9, Photo# 145 USGS 1/4 QUAD MAP #: PTA D1 SE
Net Vol/Ac: 25 MBF/Acre Total Net Unit Volume: 1,410 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class III streams on east and west sides of unit - maintain stream channel stability.
South winds predominate - ensure windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Management:

As designed, unit will leave 100-200 foot buffers on Class III streams to the east and west of unit (BMP 12.6).

B. Transportation System

Specified road 46152 may be extended in the future. Road will be specified to the last landing.

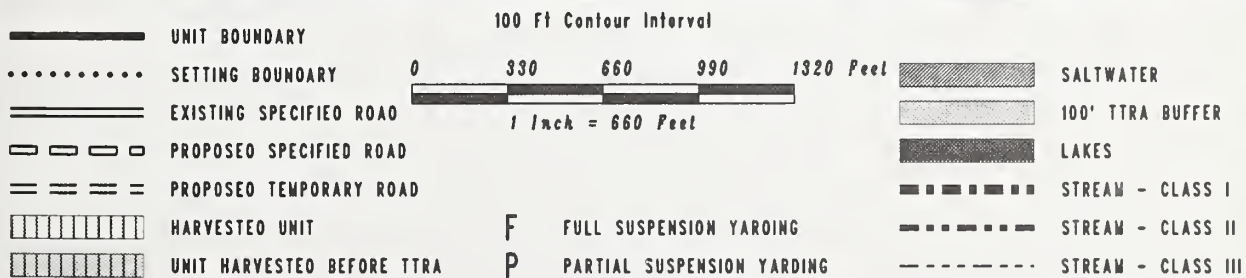
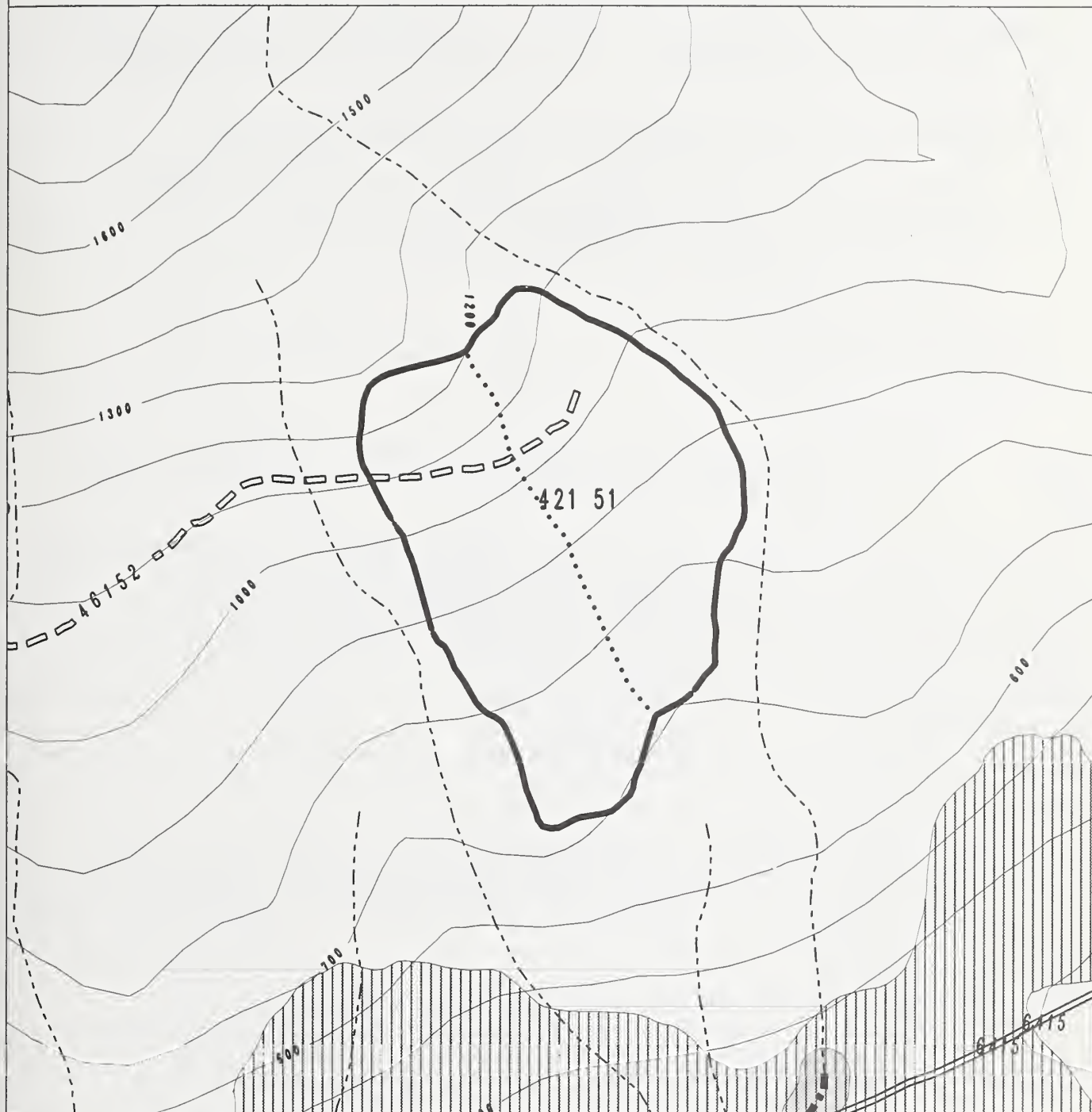
C. Unit Design

The extended buffers along the Class III streams were designed to protect the steep V-notch.

The buffer is expected to be windfirm since it is parallel to prevailing winds.

421 - 51

421 - 51



0 330 660 990 1320 Peel

1 inch = 660 Feet

 SALTWATER 100' TTRA BUFFER

LAKES

██████████ STREAM - CLASS I

***** STREAM - CLASS II

----- STREAM - CLASS III

F FULL SUSPENSION YARNOING

P PARTIAL SUSPENSION YARDING



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-52

Acres: 86 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 10, Photo# 55 USGS 1/4 QUAD MAP #: PTA D1 SE
Net Vol/Ac: 25 MBF/Acre Total Net Unit Volume: 2,117 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class III streams in and near unit - maintain stream channel stability.
Northern portion of unit will be visible from Kadake Creek in the
middleground - meet inventoried VQO of Partial Retention.
South winds predominate - maintain windfirmness.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify
natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Class III stream within unit will be protected under contract provision
B6.5c (BMP 13.16 E5, E9). Full suspension over this stream is
planned. Class III stream to the east will be protected under contract
provision B6.5c (BMP 13.16 E5, E9, E11). Partial suspension is
planned. Maintain buffer of approximately 100 feet from the Class III
stream north of the unit.

3. Visuals:

Since only a small portion of the unit is seen, visual impacts would be
minimal.

B. Transportation System:

Specified road 46153 will run through unit once, switch back at a future
junction, and end at the unit boundary at the approximate location of a
possible future spur junction. A temporary spur is proposed to access the
northern setting.

C. Unit Design:

Running skyline with partial and full suspension designated.
Unit borders second growth stand on the western edge, providing a windfirm
boundary. North boundary is on the lee side of the ridge providing
protection to the stream buffer.

UNIT MAP

421 - 52



	UNIT BOUNDARY	100 Ft Contour Interval			SALTWATER
	SETTING BOUNDARY	0	330		100' TTRA BUFFER
	EXISTING SPECIFIED ROAD				LAKES
	PROPOSED SPECIFIED ROAD	1 Inch = 660 Feet			STREAM - CLASS I
	PROPOSED TEMPDRARY ROAD				STREAM - CLASS II
	HARVESTED UNIT				STREAM - CLASS III
	UNIT HARVESTED BEFORE TTRA				
		F	FULL SUSPENSION YARDING		
		P	PARTIAL SUSPENSION YARDING		



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-53h

Acres: 23 Alternative: 2,3,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 8, Photo# 12 USGS 1/4 QUAD MAP #: PTA C1 NE
Net Vol/Ac: 22 MBF/Acre Total Net Unit Volume: 506 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Wildlife travel corridor - maintain corridor.
Class III streams to the east and west of unit - maintain stream channel stability.
Access "difficult" component of the ASQ - develop techniques for managing this component.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

No effect on Class III streams that are over 200' to the east and west of unit.

3. Wildlife Habitat:

Several second growth units that will not facilitate deer travel in general vicinity. Leave strip between this unit and 402-18 will provide for wildlife travel corridors.

B. Transportation System

Helicopter landing on existing road. No new roads needed.

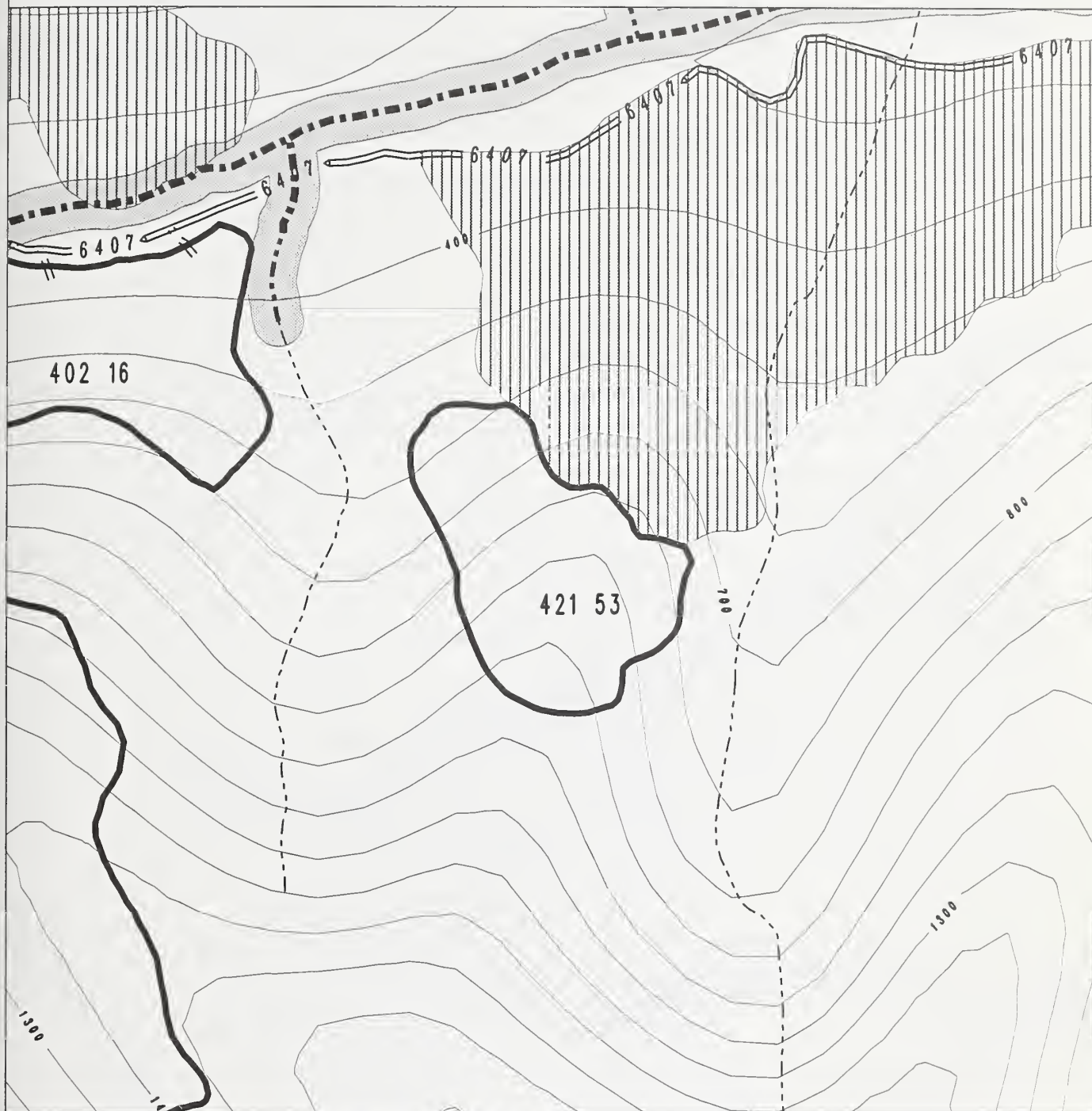
C. Unit Design

Unit is planned for helicopter yarding. Unit is isolated above the backline of an old harvest unit and is not accessible by road due to steep topography.

Northeast edge of unit borders existing plantation.

UNIT MAP

421 - 53



UNIT BOUNDARY



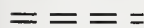
SETTING BOUNDARY



EXISTING SPECIFIED ROAD



PROPOSED SPECIFIED ROAD



PROPOSED TEMPORARY ROAD



HARVESTED UNIT



UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet



1 inch = 660 Feet

F

FULL SUSPENSION YARDING

P

PARTIAL SUSPENSION YARDING



SALTWATER



100' TTRA BUFFER



LAKES



STREAM - CLASS I



STREAM - CLASS II



STREAM - CLASS III



NORTH AND EAST KUIU UNIT PLAN

UNIT 421-54

Acres: 34 Alternative: 2,4 LUD: IV Mgmt. Area: S04
1977 Aerial Photo: Flight# 11, Photo# 93 USGS 1/4 QUAD MAP #: PTA D1 SE
Net Vol/Ac: 13 MBF/Acre Total Net Unit Volume: 442 MBF

I. RESOURCE CONCERNS/OPPORTUNITIES - UNIT MANAGEMENT OBJECTIVES

Class I stream south of unit - maintain riparian buffer.
Windthrow is not a concern due to wind direction and adjacent scrub.

II. IMPLEMENTATION ACTIVITIES

A. Ecosystems Management:

1. Vegetation:

Manage as even-aged stand, clearcut for natural regeneration, certify natural regeneration, pre-commercial thin to maintain healthy stand.

2. Aquatic Habitat:

Maintain a 100-foot buffer along the Class I stream to the south of unit (BMP 12.6).

B. Transportation System

Temporary spurs will access unit.

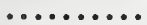
C. Unit Design

UNIT MAP

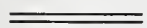
421 - 54



UNIT BOUNDARY



SETTING BOUNDARY



EXISTING SPECIFIED ROAD



PROPOSED SPECIFIED ROAD



PROPOSED TEMPORARY ROAD



HARVESTED UNIT



UNIT HARVESTED BEFORE TTRA

100 Ft Contour Interval

0 330 660 990 1320 Feet

1 Inch = 660 Feet

F

FULL SUSPENSION YARDING

P

PARTIAL SUSPENSION YARDING



SALTWATER



100' TTRA BUFFER



LAKES



STREAM - CLASS I



STREAM - CLASS II



STREAM - CLASS III



ROAD DESCRIPTION PHOTO



PTA DI NW

SCALE: 1" = 1 MILE

ROAD DESCRIPTION PHOTO



6425

A

46021



A

6401

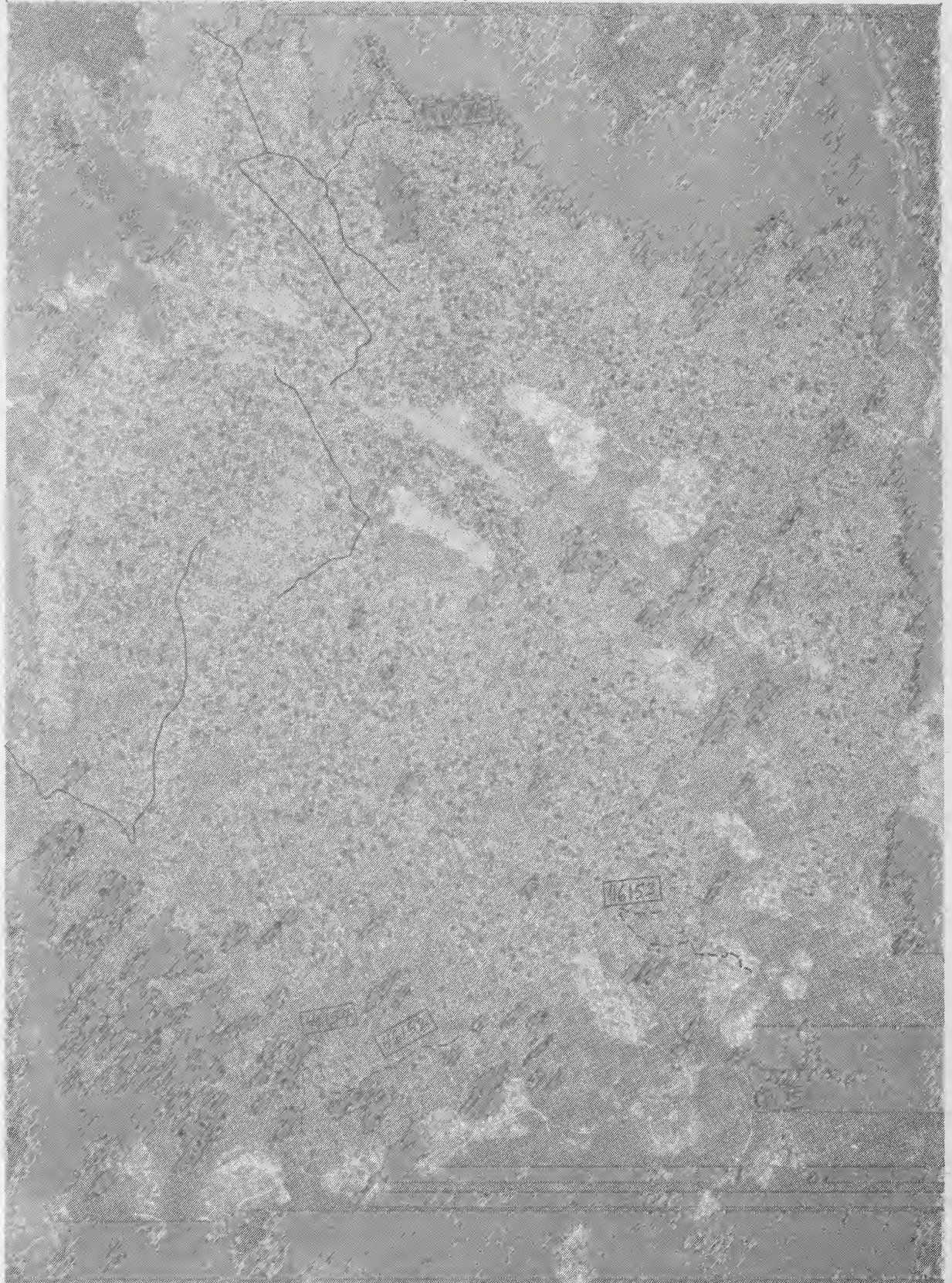
A

46011

PTA-DI-SW

SCALE: 1" = 1 MILE

ROAD DESCRIPTION PHOTO



PTA DI SE

SCALE 1" = 1 mile

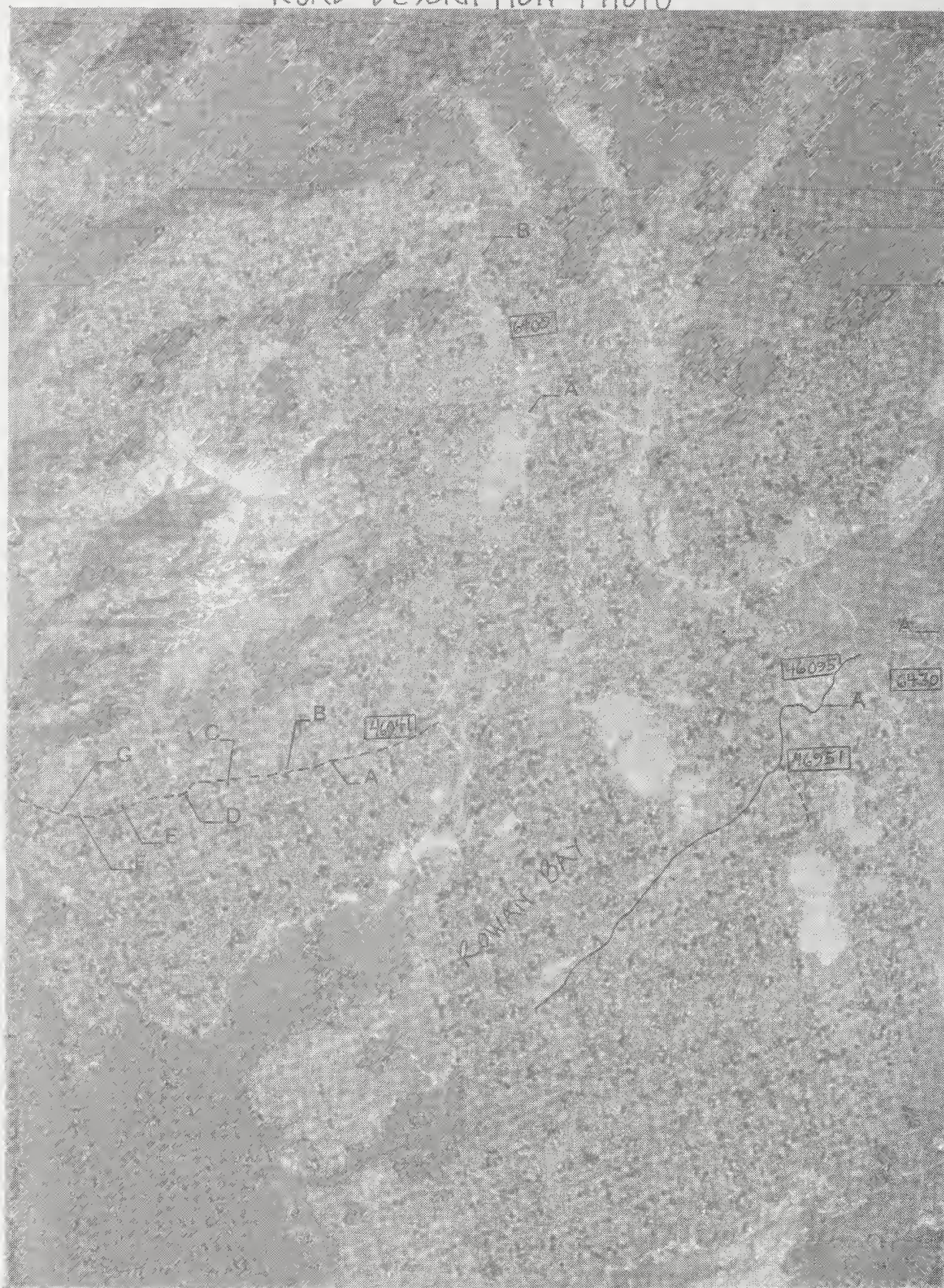
ROAD DESCRIPTION PHOTO



PTA- C2- NE

SCALE: 1" = 1 MILE

ROAD DESCRIPTION PHOTO



PTA-CI-NW

SCALE: 1" = 1 mile

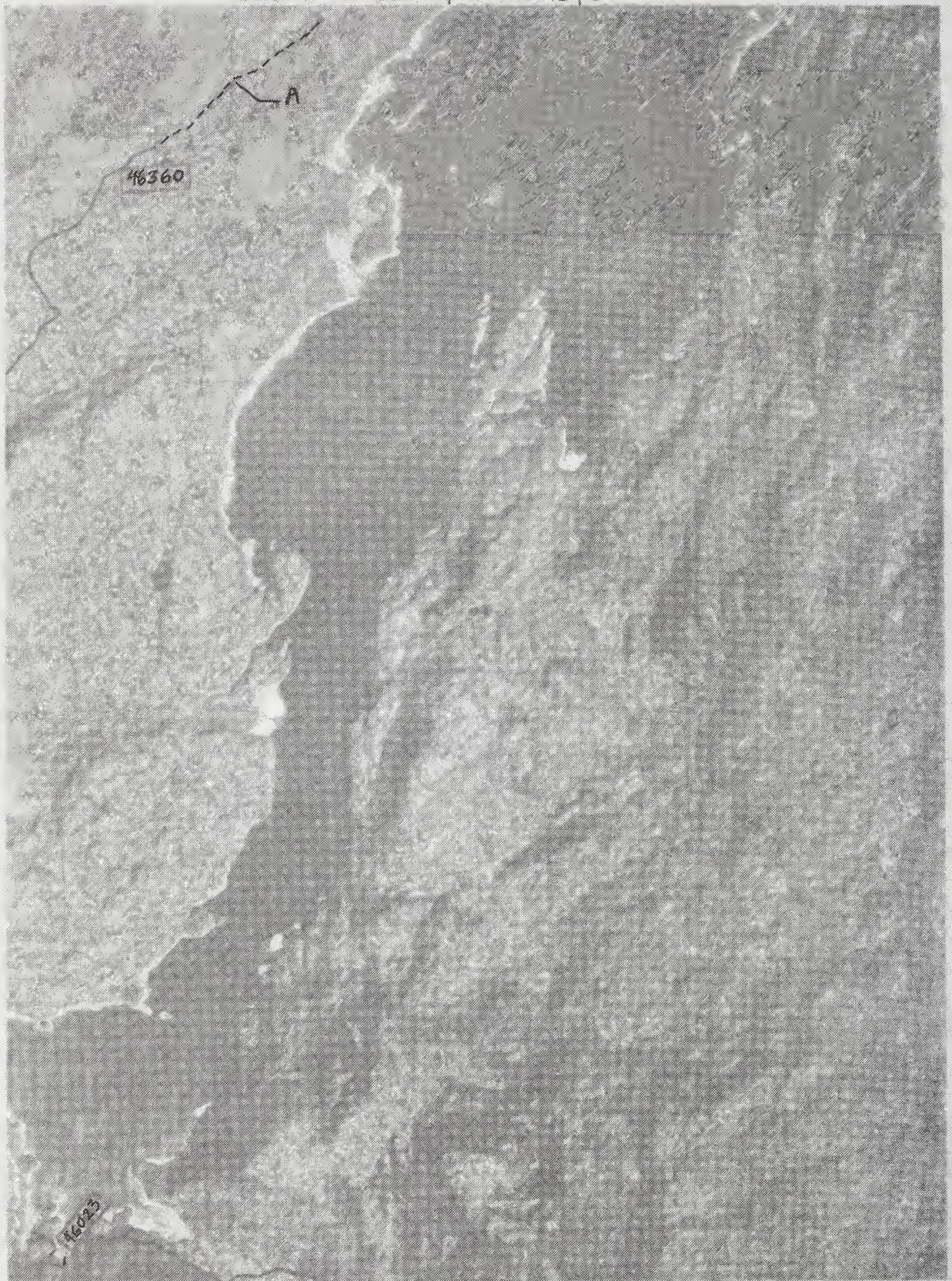
ROAD DESCRIPTION PHOTO



PTA-CI-NE

SCALE: 1" = 1 MILE

ROAD DESCRIPTION PHOTO



PBG-C6-NW

SCALE: 1" = 1 MILE

ROAD DESCRIPTION PHOTO



PBG-66 SW

SCALE 1" = 1 MILE

ROAD DESCRIPTION PHOTO



PBG B6 NW

SCALE: 1" = 1 MILE

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 400

ROAD NUMBER: 46011 (Security Faultline)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 1.4 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to use the faultline bench running above the backlines of the units logged downhill to Rd. 6402. This bench runs along the top of unit 400-9 and on to the south. Getting up to the bench requires a series of switchbacks and ~100 ft. of steep sideslope just above a small muskeg at the northeast corner of unit 400-9.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 46011.

A) In unit 400-8. Class III. 10-12' wide, .5-1' deep. Gradient 10% up, 17% down, with 15' falls 35' below crossing. Bedrock substrate. Estimate 48-60" CMP.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 400

ROAD NUMBER: 46021 (Security Ridge)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 1.5 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: This road uses 0.3 miles of existing spur road which will be brought up to forest development road standards. The main location objective is to reach the ridgetop in unit 400-13. The road climbs into a bowl crossing two streams (pts. 'A' and 'B'). Approximately 600' past pt. 'B' there is a V-notch control point which forces the road lower on the hill before it starts the climb to the ridgetop.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 46021.

A) Approx. 42+00. Class III. 5' wide by 1' deep. Moderate gradient. Substrate boulders, cobbles. Estimate 36-48" CMP.

B) Approx. 46+00. Class III. 6' wide by 2' deep. Moderate gradient. Substrate boulders, cobbles. Estimate 60-72" CMP.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiau Longterm MGT AREA: S09 VCU: 420

ROAD NUMBER: 46023 (Port Camden Boat Ramp)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.1 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Pickup CRITICAL VEHICLE: Pickup

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: Provides water access for launching small boats into Port Camden. It is mainly intended to facilitate Forest Service administration. In addition, some recreational use by residents of Rowan Bay is expected.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to use the existing rock ramp (known as White's Ramp) at approx. milepost 27.0 on Rd. 6402. This will minimize new impacts to the beach. The ramp will be extended down to the existing log floats. With 3-4' of shot rock fill near the junction tapering to a 1' lift at the bottom, the ramp can be built at 13% grade. The existing turnout at the top of the ramp may be expanded. Due to shallow water, this ramp will be effective only on middle to high tides. A location with slightly deeper water was found further up Port Camden, but was not chosen because the access road was longer, affecting more beach fringe area and costing more for a marginally better location.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: Rock from an existing pit will be used.

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS: This road has been identified as a visual or recreation concern. Consult with landscape architect before construction.

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuio Longterm MGT AREA: S04 VCU: 402

ROAD NUMBER: 46041 (Behind Camp)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 4.3 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Log truck CRITICAL VEHICLE: Log truck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to follow the base of the Rowan Peak ridge system. At the west end of this slope the road climbs up to reach unit 402-28. Staying high avoids an alluvial area between units 402-27 and 28, and an area of steep sideslopes between units 402-27 and 48 (BMP 14.2 E3). The road must stay above the 500' beach fringe as it crosses the flat behind the sandy beach cove. From here the road stays at the toe of the slope to unit 402-35.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1). From pt. 'G' (east side of unit 402-28) to the end has been identified as a visual or recreation concern. This segment of road should be delineated as "sensitive" on the offering area map (see B6.311).

FUTURE NEEDS: Will be intermittently used for timber sale and general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at one crossing along this segment, due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 46041.

A) Class II, south side of unit 402-24. 6' wide with 2' banks. Alluvial channel with cobble substrate. Gradient 4-5%. Fish passage required. This creek is a tributary to the main channel used for the Rowan Bay camp's water supply. Estimate 77"x52" CMPA with baffles buried to retain streambed in pipe.

B) Class III, west end of 402-24. 30' wide, flashy. Boulder, cobble, gravel substrate. Log jams above and below crossing. This is main channel of the creek used for the Rowan Bay camp's water supply. Estimate 50' bridge.

C) Class II, east end of 402-25. 4' wide by 1' deep, 3' banks. Substrate silty gravel. Gradient 1%. Fish passage required. Estimate 36" CMP installed at 0%.

D) Class III, west end of 402-25. 12' wide by 2' deep, 10' bedrock banks. Substrate bedrock, boulders, cobbles. Gradient 18% rock chute into crossing, 40' of 6% and cobbles, then a 10' falls below the site. Estimate 84" CMP.

E) Class III, west end of 402-26. 12' wide by 1' deep drywash, 10' banks. Boulders, cobbles, gravel substrate. Gradient 15% up, 10% down. Estimate 60" CMP.

F) Class III, between 402-27 and 28. 10' wide by 1' deep drywash. Large fill will be required to hit the ridge nose on the west side of the crossing. Estimate 48-60" CMP.

G) Class III, east side of 402-28. Old debris torrent path down this V-notch. ~30' of fill will be required. Estimate 60" CMP due to depth of fill.

H) Class I (Pink timing window), spawning and rearing habitat (east side of 402-30). Wide alluvial channel, cobble gravel substrate. Gradient 1%. Estimate 50' bridge with log abutments. There are several overflow channels in the vicinity. Drainage structures in these channels will require fish passage.

I) Class III, in unit 402-35. Estimate 48" CMP.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 421

ROAD NUMBER: 46071 (Southwest Kadake)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.5 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: This road uses 0.1 miles of existing spur road which will be brought up to forest development road standards. The main location objective is to reach the ridgetop.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 398, 399

ROAD NUMBER: 46092 (Selection)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 1.7 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: This road uses 0.5 miles of existing spur road which will be brought up to forest development road standards. New construction is on gentle topography.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 402

ROAD NUMBER: 46095 (Rowan South)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 3.5 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: Existing road.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at one crossing along this segment, due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 46095.

A) Milepost ~1.0, log stringer bridge replacement. Class I (Pink timing window). Spawning habitat at crossing. Fish passage required. ~40' wide channel with low banks. Gradient 1%, substrate gravel. Replace with bridge to protect spawning habitat. Estimate 60' bridge.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 421

ROAD NUMBER: 46152 (N.W. Kadake Slope)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 2.1 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The road gains elevation as rapidly as possible up gentle topography, then switches back and accesses the top of a mid-slope bench. There is one V-notch control point just east of unit 421-50.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 421

ROAD NUMBER: 46153 (Kadake Climber)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 1.3 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: This road uses 0.3 miles of existing spur road which will be brought up to forest development road standards. The main location objective is to gain elevation and reach the ridgetop in unit 421-52.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 421

ROAD NUMBER: 46154 (N.W. Kadake Ridge)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.5 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to not only log the north portion of unit 421-49, but to end at a location that can continue up the slope to the top of the ridge system north of West Fork Kadake Creek.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 418

ROAD NUMBER: 46202 (Bataan Creek)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.4 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The road leaves Rd. 6402 just past the Bataan Creek bridge and drops down into unit 418-5. There is a future bridge crossing just past this unit that the current location must take into account.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 399

ROAD NUMBER: 46251 (Cool Lake)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 2.5 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: This road uses 0.1 miles of existing spur road which will be brought up to forest development road standards. A Class I stream has previously been crossed by this spur and this crossing (pt. 'A') will be used again for the permanent road. Two more stream crossings (pts. 'B' and 'C') are control points due to deeply incised channels above the crossing sites. The location then follows a bench paralleling above Cool Lake.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at one crossing along this segment, due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 46251.

A) ~2+00. Class I (Pink timing window). Low velocity beaver pond area. Rearing habitat. Estimate large displacement CMPA.

B) ~27+00. Class II. ~10' wide by 2' deep. Low gradient channel. Fish passage not required due to natural barrier falls just below crossing. Estimate 72" CMP.

C) ~59+00. Class II. ~12' wide by 2' deep. Moderate gradient channel. Fish passage not required due to natural barrier falls just below crossing. Estimate 84" CMP.

D) ~121+00. Class III. ~6' wide by 1' deep. Steep gradient channel. Estimate 48" CMP.

E) ~130+00. Class III. ~10' wide by 1.5' deep. Steep gradient channel.
Estimate 60-72" CMP.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuio Longterm MGT AREA: S04 VCU: 399

ROAD NUMBER: 46252 (North Cool Lake)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 1.0 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to circle around Cool Lake and climb up to a saddle in the ridge overlooking Saginaw Bay.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 420

ROAD NUMBER: 46341 (Three Mile Arm Boat Ramp)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.1 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Pickup CRITICAL VEHICLE: Pickup

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: Provides water access for launching small boats into Three Mile Arm. It is mainly intended to facilitate Forest Service administration. In addition, some recreational use by residents of Rowan Bay is expected.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to reach saltwater of adequate depth with the shortest access road possible. The site selected is at milepost 3.8 of Rd. 6434. Approx. 400' of road will be built to the beach. A 1' lift of shot rock is planned on the beach. A 30' by 30' turnaround area is planned just above the ramp.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: Rock from an existing pit will be used.

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS: This road has been identified as a visual or recreation concern. Consult with landscape architect before construction.

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 420

ROAD NUMBER: 46360 (Hobnail-West Port Camden)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 1.4 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: This is an extension of existing Rd. 46360 to provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to follow the bench at ~800 ft elevation on the west side of Port Camden. The main control point is the head of a major V-notch (pt. 'A' on the road description photo). At this point the general elevation of the bench drops ~50 ft. and then continues on at a level grade. It is believed that the bench past pt. 'A' is the top of a large "block glide" which resulted in a feature several hundred acres in size moving downslope. Geotech input indicates that due to the large scale of the feature the road along the top will not affect the stability of the area. Getting from this bench up to pt. 'A' requires ~600 ft. of 15% adverse haul.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El). The entire length of this road has been identified as a visual or recreation concern area. The entire road should be delineated as "sensitive" on the offering area map (see B6.311). Since the road is in an area of volcaniclastic soils, a soil scientist or geotech will be involved in the location of rock pits.

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 46360.

A) Between units 420-46 and 420-47. Class III. 8' wide cobble deposit at centerline, .5' max depth. Platy bedrock at inlet. 20% gradient. 10' falls just below outlet. Larger falls 100' downstream. Estimate 36" CMP.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 417

ROAD NUMBER: 46561 (No Name Camp)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.4 mi. TRAFFIC SERVICE LEVEL: C DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access to a logging camp with facilities separated from logging activities for safety.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: This road takes off from Rd. 6456 just before the planned sortyard. The crossing of a Class I stream at pt. 'A' is a control point as the channel becomes deeply incised upstream. The road then crosses onto the flat area where the camp will be located.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1). This road has been identified as a visual or recreation concern. The entire length of the road should be delineated as "sensitive" on the offering area map (see B6.311).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at one crossing along this segment, due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 46561.

A) ~10+00. Class I (Pink timing window). 18' wide by 2' deep. Rough volcanic bedrock substrate. 5% scoured chute above crossing. North bank bedrock, south bank alluvial. Estimate 50' bridge.

B) ~14+00. Class II. 6' wide by 1' deep. Low gradient channel. Fish passage required. Estimate 60" by 46" CMPA buried for fish passage.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 416

ROAD NUMBER: 46901 (Study Road - FSL Experiment Access)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.2 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Log truck CRITICAL VEHICLE: Log truck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access to the FSL partial cut experiment area. A road this short would normally be built as a temporary road and closed out after logging is completed. This road, however will need to be kept open to allow for easy access to any on-going studies that will likely take place.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to reach landings in unit 416-7.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: No quarry will be developed along this short road in the partial cut study unit.

FUTURE NEEDS: Will be intermittently used for study area access.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 402

ROAD NUMBER: 46951 (Rowan Wind)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.5 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to follow a minor ridge system.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 400

ROAD NUMBER: 6401 (Bull Buck)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 1.4 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: Existing road.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6401.

A) Milepost 0.25, Log stringer bridge needs replacement. Class II. 8' wide by 1' deep. Meandering channel due to woody debris, straight line gradient 7%. Substrate gravel. Resident habitat ends ~500' upstream. Due to small area of resident habitat upstream and steepness of stream, fish passage is not required. Estimate 48" CMP at natural stream gradient, riprap outlet.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuio Longterm MGT AREA: S09 VCU: 417-19,405.1

ROAD NUMBER: 6402 (Kuio Mainline to No Name Bay, PBG-C6-SW segment)

FUNCTIONAL CLASS: Arterial ENTRY CYCLE: Constant

LENGTH: 8.8 mi. segment TRAFFIC SERVICE LEVEL: B DESIGN SPEED: 30 mph

DESIGN VEHICLE: Low-boy CRITICAL VEHICLE: Low-boy

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration. This is an extension of the Kuio mainline from Saginaw Bay to Reid Bay. The road currently ends on the south side of Three Mile Arm. This segment of the Rd. 6402 (running through the PBG-C6-SW 1/4 quad) is proposed for construction in Alternatives 3 and 4. A 1.2 mile segment from the Head of No Name Bay north to the vicinity of Alecks Lake will be signed as an alternate kayak portage route.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: Starting at the south shore of Three Mile Arm, Rd. 6402 heads up the Apricot Ck. valley, currently ending 0.6 mi. from the 6478 junction. There were two route locations explored from this point. The 1979 location continues up the Apricot Ck. valley passing by two small lakes and then crossing Toenail Ck. (a creek flowing into the north side of Salt Lagoon) inside Unit 418-1. Two problems are associated with this route. The first is the stability of the steep slopes adjacent to the first small lake. The route crosses ~1000' of 70-90% talus sideslopes in this area. This would create safety problems from rolling material during construction and maintenance problems thereafter as the cutslope likely will not stabilize. The second problem is the crossing of Toenail Ck., which is on a very wide, broad floodplain, with at least four active channels. The main channel is 40' wide, with the others 6', 10', and 20' wide. Channel changes are likely which makes the probability of losing crossing structures high.

The solution to these problems was to look for another route (BMP 14.2 E3). The route chosen leaves the existing Rd. 6402 location ~0.2 mi. back from the end and follows an existing spur. The crossing of Apricot Ck. would be re-established. New construction would begin as the route climbs at 12% up gentle (30-45%) sideslopes to a muskeg bench above and paralleling the 1979 location. The crossing of Toenail Ck. is at the very lowest point of bedrock contained channel.

The next major consideration is the Salt Lagoon vs. Aleck's Lake route. The Aleck's route is the easiest terrain and shortest distance to the LTF at No Name Bay. This location was blocked for a short time by a wilderness proposal, but was subsequently opened when the final wilderness boundaries were drawn, specifically in order to allow this road corridor to No Name Bay. During the time the Aleck's route was blocked, a route along the south shore of Salt Lagoon, past Seclusion Harbor, and around the north shore of No Name Bay was proposed. Routing the mainline road along the lagoon was opposed because of the continuous human activity that would be introduced into this rich wildlife habitat. Therefore, for the reasons of terrain, distance, and wildlife advantages, the Aleck's Lake route is the current proposal.

The next set of route locations begins at the south end of the Aleck's Creek watershed. The 1979 location follows a valley bottom Class I stream system, paralleling the stream for ~1000'. It also runs through a patch of culturally modified trees (cedars with bark stripped) just north of the junction of Rd. 6493. The currently proposed location follows the edge of a low ridge system above and to the west of the 1979 location, avoiding the Class I stream and the cultural site.

From the head of No Name Bay to the quarter quad boundary that ends this segment, the main location objective is to provide good stream crossings and reach the muskeg/scrub shelf that runs along parallel and above the beach fringe all the way to the junction with the LTF access road, Rd. 6456.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1). No areas of potentially unstable soils are crossed along this segment of Rd. 6402 (BMP 14.2 E3).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movemovent (BMP 14.18 E1).

Development of rock sources are of particular concern along the segment of road where the quarry backwalls may be visible from No Name Bay and Aleck's Lake (segment J-U on the road description map). This segment should be delineated as sensitive on the offering area map (see B6.311), indicating that development of quarries along this sensitive segment will require special mitigation. Some of these methods include: accessing the pit via a small spur, turning the pit to minimize its view, etc. Specific concerns and directions are listed below.

Pit development at 'P' 8600 could be visible from Aleck's Lake, and would require turning to face inland away from the lake. Do not develop at the next rock knob, 'P' 8200, as it faces almost directly onto the lake, and is located above a small creek.

Development of a quarry is necessary somewhere along the alternate kayak portage route. There is potential for this quarry to be developed for use as a resting or picnic table site for portage users. Care should be taken in how the rock pit is oriented to provide the sunniest exposure (ie: south facing if possible).

FUTURE NEEDS: Will be continuously used for general forest administration. Approx. 1.2 miles of the road from the head of No Name Bay to Aleck's Lake will be used as an alternative kayak portage.

OTHER CONSIDERATIONS: Special attention must be given to site distances on the section of road where pedestrians (kayak portagers) are expected. Turnouts should be provided at all portage crossings. The road crosses the existing portage at a section where standard muskeg overlay construction will take place, so steep cut or fill slopes will not be encountered.

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at 11 crossings along this segment, due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6402.

A) Middle Fork Apricot Ck. Class I, rearing habitat (Pink timing window). This is a low floodplain system which was previously bridged with a temporary structure. Fill material remains at the site and angular shot rock is the predominant substrate material at the exact crossing. Width 21' by 1.5' highwater depth, banks ~5' high of shot rock. Gradient is 3%. Cobble, gravel substrate. Fresh blowdown in creek. Estimate 137" by 87" CMPA fitted with gravel retainment baffles and buried approx. 1.5 ft.

B) North end of helispot muskeg. Class III. Estimate 48" CMP with ~10' fill for road grade.

C) Toenail Ck. Bridge. Class III. Flow is subterraneous at this point for most of the year. Vertical bedrock banks provide good containment. ~30' bank on south side, gently sloping bank on north side. Width 40' just above crossing. Substrate large cobbles, high rate of bedload and woody debris movement. Very flashy stream. Stream looses bedrock containment just above this site. It is proposed to continue this containment with riprap out onto the existing cobble overflow area. This will continue the channelized flow to below the bridge site and provide for a reasonable bridge length. Estimate 70' bridge.

D) NE boundary of Unit 418-2. Class III. 8' wide with 8-10' banks. Gradient 20%, substrate bedrock, boulders, cobbles. Estimate 48-60" CMP.

E) Middle crossing Unit 418-2. Class III. 8' wetted width, 30' channel. High gradient stream. Estimate 60-72" CMP. Large Riprap needed downstream.

F) South boundary of Unit 418-2. Class III. Channel width 12' with ~6' of bare rock. 8' by 2' max flow in confined area. Still water in places after 2 week dry spell. 15' bank on south side, both banks of broken volcanic bedrock. This is a new crossing location which avoids paralleling the creek with full bench construction as mentioned in the draft EIS. Estimate 72" CMP.

G) Bataan Ck. bridge. 'P' 5810 on preliminary survey line. Spawning habitat present below falls, (Pink timing window). Class II. Fairly large creek with well contained bedrock banks. Estimate 55' bridge. Downstream 100-125' exists an ~70' vertical waterfall. Bedrock lies at shallow depth (1-3') and is exposed within the creek. It is recommended that the overburden be removed prior to placement of embankment for spread footing placement.

H) South end of Aleck's Ck. depositional fan. 'P' 3205. Class III. This was mentioned as a possible Class I in the DEIS due to it's location on the edge of an alluvial fan. Field reconnaissance has shown this not to be a fish stream. The estimated 18" CMP will be adequate at this site. A crossing ~300' to the south at 'P' 3315 was also mentioned in the DEIS as a possible Class I. This also turned out to be a Class III drainage requiring an 18" CMP.

Field inventory performed between the Draft and Final EIS's found that there is no fish habitat in any of the drainages between points H and I.

I) 'P' 6600. Class I, rearing habitat (Pink timing window). 3' wide by 1.5' deep. Gradient is 2%. Substrate of sand and gravel. Large Dollys in creek. Estimate 60"+ CMPA buried for fish passage. Will need bank protection downstream. Riprap outlet and bury log downstream.

J) 'P' 7320. Class I, rearing habitat (Pink timing window). Crossing is relocated downstream ~100' from P-line to a bedrock controlled area. ~20' wide by 3' deep. Gradient is 3%. Gravel substrate over bedrock. Exposed rock on south side, north side is a broad floodplain. Exact spot of the crossing is not spawning habitat (bedrock bottom). Estimate 30' bridge.

K) 'P' 8025. Class II, Dolly Varden present. 2' wide by 1' deep. Gradient is 5%. Estimate 60" equivalent (66" x 51") arch with baffles to provide fish passage.

L) 'P' 8400. Class III. Steep gradient. Estimate 48" cmp with 10' fill.

M) 'P' 9700. Class I, spawning and rearing habitat (Pink timing window). Dollys, Cutthroat, and Coho's present. Gravel, cobble substrate. 3' wide by 1' deep. Stream gradient 5%. Natural weir log is in place just below this crossing; do not remove. A slightly easier culvert installation site exists 400' upstream, but adds road length and degrades the alignment of this arterial road. The proposed site is ~200 feet downstream of the upper end of Class I habitat. A 66" x 51" arch with baffles buried to catch bedload and provide a near natural stream bottom is estimated to provide fish passage.

N) 'P' 10300. Class I, spawning and rearing habitat (Sockeye timing window). Relocated surveyed line upstream to avoid braided unstable area. At new crossing, 18' wide by 4-4.5' deep. Sand, gravel, cobble substrate. Floodplain, low-lying area. Lots of gravel bars. Stream gradient is 1%. Lots of spawning activity. Estimate slab bridge 30-35' span on cribs to stay out of creek. Subexcavate and backfill to provide good foundation.

O) 'P' 10705. Class I, rearing habitat (Pink timing window). Coho fry present. 2' wide by 1' deep max. Organic bottom with sand underneath. Gradient is 1%. Muskeg/scrubby flat area. Bury oversized arch for fish passage, estimate 60" equivalent.

P) 'P' 10900. Class I, rearing habitat (Pink timing window). Deep and narrow with mud and gravel bottom. Meanders through a sawgrass flat. 2' wide by 2' deep. Gradient is 0%. Oversize CMPA and bury for fish passage. Place log downstream.

Q) Class II. 3' wide by 1' deep max flow, 1' wide by 0.1' deep at time of survey. U-shaped draw ~10' across, skunk cabbage and devil's club present. Cobble, gravel substrate. Gradient 6% for 50' at the crossing. Gradient increases to 14% at 75 feet above the crossing. Site is too steep for holding bedload with baffles so would require a bridge to provide fish passage. IDT recommendation is to not provide fish passage to the upper 200-300 feet of this very poor quality resident fish habitat. Estimate 36" CMP with about 10' fill.

R) 'P' 38115. Class I, rearing habitat (Pink timing window), main creek at head of No Name Bay (Goose Ck.) This is the creek and series of beaver ponds that the existing Aleck's Lake portage follows. Wetted perimeter 12' wide by 2' banks (1' deep at time of visit). Estimate highwater at 100 year event 3-6' deep. Stream gradient is 1%. Not much vegetation on floodplain area, just large spruce trees. Substrate sand to boulders. Potential bedrock exposed in bottom. Any increase of velocity through pipe arch may wash out gravel below the site, downstream structure to retain gravel may be needed with pipe. Given this potential, the IDT recommendation is to install a 30-40' bridge.

S) 'P' 39215. Class I, rearing habitat (Pink timing window), beaver pond area. 12' wide by 2' deep, gradient 0%. Not much flow. Fish passage required. Estimate 112" by 79" displacement CMPA. Need geotextile if bottom is marshy.

T) 'P' 40705. Class III. Gravel, cobble, bedrock substrate. Shallow to bedrock. 5' wide by 1.5' deep. Gradient 4% up, 7% down. Estimate 60" pipe.

U) On new location segment. Class I, rearing habitat (Coho timing window). 10-15' wide by 1' deep. Angular cobbles, shallow to volcanic bedrock. Gradient

1%. Estimate 103" by 71" CMPA partially buried for fish passage. Blasting may be required to bed the pipe.

Road description continued on PBG-B6-NW segment of Rd. 6402.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 416,417

ROAD NUMBER: 6402 (Kuiu Mainline to Alvin Bay, PBG-B6-NW segment)

FUNCTIONAL CLASS: Arterial ENTRY CYCLE: Constant

LENGTH: 6.6 mi. segment TRAFFIC SERVICE LEVEL: B DESIGN SPEED: 30 mph

DESIGN VEHICLE: Low-boy CRITICAL VEHICLE: Low-boy

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration. This is an extension of the Kuiu mainline from Saginaw Bay to Reid Bay. This segment provides access to the Forest Science Laboratory's partial cut experimentation area.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: From the quad boundary where this segment begins to the LTF access road (Rd. 6456) the main location objective is to follow the scrub/muskeg shelf that runs parallel and above the beach fringe. From the 6456 junction the road must climb rapidly sidehilling up to a pass allowing access to the uplands between No Name and Alvin Bays. Along here the objective was to stay on gentle ground at the base of a ridge just east of two small lakes. The creek draining the southern lake forms a deep canyon to the east, and the best bridge crossing site is right at the outlet. From this control point the road heads south and west to reach the head of the Trouble Creek valley. The east side of Trouble Lake is very steep, so the road crosses to the west side as soon as it enters the valley. It then runs along the edge of a beaver pond meadow area. The location could have been forced up onto a bench to the west, but this would have created significant adverse haul on a mainline road. To the south of Trouble Lake the west side of the valley is moderately steep with clay soils, so the road crosses the creek at the outlet of the lake and runs along a flat on the east side of the creek. Near the end of this flat the road crosses Trouble Creek for the last time and heads south to the next control point, a crossing on a tributary to Trouble Creek. Approx. 600 ft. south of this crossing is the junct. of Rd. 6491, where Rd. 6402 ends.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1). There are two sections of road (for a total of ~450 ft.) that will require full bench construction with end-hauling of excess excavation (BMP 14.7 E5). These are listed below with corresponding letter points on the road description photo. Rock excavation that requires blasting through these sections will be performed using controlled blasting techniques (SA SPS 203.10) under the same wet weather restrictions as rock quarry development (BMP 14.7 E10).

- h) 'P' 51615 and east for ~250 feet (between units 417-13 and 417-22).
- j) 'P' 54510 and east for ~450 feet (between units 417-22 and 417-14).
- n) 'P' 11215 and south for ~200 feet (centerline of road is 60-100' away from the northwest corner of Trouble lake through this segment).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movemovent (BMP 14.18 E1).

Development of rock sources are of particular concern along the segment of road where the quarry backwalls may be visible from No Name Bay (segment 'a-i' on the road description map). This segment should be delineated as "sensitive" on the offering area map (see B6.311), indicating that development of quarries along this sensitive segment will require special mitigation. Some of these methods include: accessing the pit via a small spur, turning the pit to minimize its view, etc. Specific concerns and directions are listed below.

A quarry opportunity exists at the south end of unit 417-12 ('P' 47100, point 'c' on the road description photo) that should be topographically screened from No Name Bay. From this point east along Rd. 6402 to the top of unit 417-22, there is a 1.4 mile segment in which it is very likely no acceptable quarry site will be found. Rock haul cost will likely be ~\$20,000 more than average here to mitigate visual impacts.

FUTURE NEEDS: Will be continuously used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at 1 crossing along this segment, due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6402 (lower case letters are used to differentiate from the PBG-C6-SW segment of Rd. 6402).

a) 'P' 45100, Tri-X Creek. Class I, spawning and rearing habitat (Coho timing window), coho found. Substrate shallow gravels over bedrock. Bedrock control above, floodplain below. Lots of woody debris upstream. Gradient 4%. ~16' wide by 1.5-2' deep. Bedrock bottom near surface. Estimate 40' bridge or bottomless arch to pass fish.

b) 'P' 45710. Class III. ~9' deep by 25' wide V-notch. Stream 3.5' wide 1.5' deep. Gravel, cobble, bedrock bottom. Gradient 13% up, 20% down. Bedrock control. Will have to cut knob out to place culvert. Blasting may be necessary. Estimate 60" shotgunned pipe. Riprap outlet.

d) 'P' 47610. Class III. Boulder, cobble, some bedrock exposed. Blasting may be required. Wetted perimeter at Q50 is 12' by 2'. Estimate 72-78" equivalent arch pipe. Waterfall ~100' downstream. Good containment. Stream gradient 8%. Riprap outlet.

e) 'P' 48805. Class III. Gradient 19%. Top of bank to top of bank width is 7' by ~2' deep. Estimate 36-48" CMP.

f) 'P' 50210. Class III. 6-8' wide, dry at crossing, flow is under deposit of gravel and cobbles. Gradient 10% down, 8% up. Estimate 36-48" CMP.

g) 'P' 50905. Class III. ~15' banks, 4-6' channel width by 1' deep. Cemented clay banks on bottom for ~2'. Real dirt above. Gradient 13%. Estimate 36-48" CMP.

i) 'P' 52205, Wannigan Creek. Class III. Gradient 23%. Estimate 48" shotgunned pipe. Riprap outlet.

k) 'P' 55605. Class II. Gravel substrate. Flat gradient. 10-15' channel width by 1' deep. Estimate 103" by 71" CMPA. Fish passage required.

l) 'P' 4005. Class II lake outlet. Channel width ~20' with ~30 high rock banks on each side. Estimate 60' bridge.

m) 'P' 9800, Trouble Creek. Class II. Beaver pond area, 20' of still water, by 1-2' deep. Banks 1-2' high. Estimate 112" by 79" CMPA. Fish passage required.

n) 'P' 11100. This is a 2' wide drainage in a skunk cabbage patch. No fish passage concerns.

o) 'P' 11410. Class III. High gradient stream, 4' wide by 2' deep. No fish passage concerns. Estimate 36-48" CMP.

p) 'P' 11630, at interior lake corner. Class II. 10' wide by 1-1.5' deep. Gradient 15% up, 10% down. Cobble, debris substrate. Channel makes sharp bend right above crossing. Upstream habitat poor with 5' barrier falls 60 yards upstream. No fish passage concerns. Estimate 60-72" CMP.

q) 'P' 12810, Trouble Creek. Class II. 67' across floodplain, normal channel width 35'. Vegetation indicates a 2' depth of flow at Q50. Large gravel substrate. Gradient 1%. Outlet of Trouble Lake is ~200' upstream. Fish passage and ice from the lake will be design considerations. Estimate 50-60' bridge.

r-u) 'P' 13505, 13805, 13915, 14345, in unit 416-4. All are Class III, flashy and go dry in the gravel flat at the bottom of the unit. All are 6' wide max. with banks less than 1'. No fish passage concerns. Estimate 36" CMP.

v) 'P' 14650, Trouble Creek. Class II. 30' wide by 2-3' deep. Gravel substrate. Gradient 1%. 5' high banks. Slightly skewed crossing. Fish passage required. Possibly large twin CMPA's, probably 40' bridge.

w) 'P' 17100. Class III. 15' high bedrock south bank, 13' across channel, 20' high north bank. Gradient 8%. North bank consists of silty-loam compact glacial till. IDT recommends not cutting into this bank. Will require ~30' of fill on the downstream side. Estimate 96" CMP because of the height of fill.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S04 VCU: 402

ROAD NUMBER: 6405 (Upper Rowan Bay)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 3.0 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: Existing road.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at one crossing along this segment, due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6405.

A) Milepost 0.20, log stringer bridge replacement. Class III (intermittent, very flashy). ~25' wide. Substrate boulders, cobbles. Moderate gradient alluvial fan channel. Lots of large bedload movement making potential for failure of culvert high, so bridge is planned for this site. Estimate 40' bridge.

B) Milepost 1.40, log stringer bridge replacement. Class I (Pink timing window). ~45' wide by 1' deep. Gradient 2%. Cobble, gravel substrate. Estimate 65' bridge.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuio Longterm MGT AREA: S04 VCU: 421

ROAD NUMBER: 6420 (Kadake Creek)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 2.1 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: This is an extension of existing Rd. 6420 to provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: This segment of Rd. 6420 is expected to naturally closed due to alder encroachment. When this occurs the maintenance level will be reduced to Level 1.

ROAD LOCATION: The main location objective is to use the mid-slope bench running through unit 421-38. The road was not continued on to the east past 421-38 due to a goose nesting area. Instead unit 420-45 is planned for access by temporary spur off of Rd. 6437.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6420.

A) ~900' south of unit 421-38. Class III. 6-8' wide by 2' deep. Substrate boulders, cobbles. Gradient 6-10%. Crosses upper end of alluvial fan just below confined area. Some channel stabilization may be needed just upstream of crossing. Estimate 72" CMP.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuia Longterm MGT AREA: S04 VCU: 400

ROAD NUMBER: 6425 (Dean Creek)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 6.4 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: Existing road.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for this bridge replacement project due to the chance that sedimentation from construction may be harmful to salmon eggs or incubating fry (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6425.

A) Milepost 1.75, Log stringer bridge needs replacement, Class I (Pink timing window). Wide alluvial channel. Gradient 1%. Substrate gravel. Spawning habitat at the crossing site. Replace with bridge to protect spawning habitat. Estimate 60' bridge.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiau Longterm MGT AREA: S04 VCU: 402

ROAD NUMBER: 6430 (Rowan Creek)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 3.6 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: Existing road.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at one crossing along this segment, due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6430.

A) Milepost 0.60, log stringer bridge replacement. Class I (Pink timing window). Fish passage required. ~20' wide, shallowly incised channel. Gradient 3%, substrate cobbles, gravel. Estimate 128" by 83" CMPA buried for fish passage.

B) Milepost 1.61, log stringer bridge replacement. Class II (this tributary enters Brown's Creek above the barrier, and there is a barrier which cannot be enhanced on this creek as well). ~15' wide by 1' deep. Gradient 6%. Cobble, gravel substrate. Gradient of the stream increases just upstream of the crossing, so fish passage is not required. Estimate 60" CMP at natural stream gradient, riprap outlet.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiau Longterm MGT AREA: S04 VCU: 421

ROAD NUMBER: 6435 (Two Lakes)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 1.4 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 1 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Road will be closed after use by pulling the log stringer bridges at milepost 0.36 and 0.38.

ROAD LOCATION: Existing road.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: None.

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at the milepost 0.38 bridge, due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry (BMP 14.6 E4). This restriction applies if the operator proposes to use option 1 presented below. Removal of both the log stringer bridges must be accomplished between June 1 and August 15.

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6435.

A) Two crossings, approximately 100' apart.

Milepost 0.36, 31' span log stringer bridge. This bridge may be hauled over without additional work.

Milepost 0.38, 36' span log stringer bridge. Class I (Pink timing window). Spawning habitat at crossing. Fish passage required. Flood plain channel. Gradient 1%, substrate gravel.

Bridge inspection indicates that the old (1978) log stringer bridge at milepost 0.38 is not safe for log haul. No further use for this road past the crossings is expected for over 10 years. To avoid the expense of replacing the bridges, but still provide safe crossing, several options are possible. Any of the options presented below meet the intent of the IDT for protection of the stream and safe log haul.

Option 1) Shore up the bridge at center span with log cribbing. This would consist of one or more logs placed under the bridge at mid-span. Each log of the bridge would be wedged up to provide support. This option would require

mechanized placement of the logs under the bridge and is expected to produce the most sediment movement of the three options. Both placement and removal of the logs must be within the fish timing window of one operating season.

Option 2) Shore up the bridge at center span with a hand built lumber or small log structure. This is expected to produce only minor movement of sediment and therefore can be built and removed outside of fish timing windows. The shoring structure must be removed before winter shut-down.

Option 3) Place a temporary rail car bridge over the existing log stringer bridge. No instream work would be required so no timing windows would apply.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 417

ROAD NUMBER: 6456 (No Name)

FUNCTIONAL CLASS: Collector ENTRY CYCLE: Constant

LENGTH: 2.1 mi. TRAFFIC SERVICE LEVEL: B DESIGN SPEED: 20 mph

DESIGN VEHICLE: Low-boy CRITICAL VEHICLE: Low-boy

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access to the proposed log transfer facility, airplane float, and logging camp sites in No Name Bay.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to provide access to the beach at the airplane float and the log transfer facility. These control points, as well as steep topography just above the beach, dictate that this road for most of it's length will be a beach road. From the point where it breaks into the old clearcut just before the airplane float (pt. 'C'), it is generally less than 100' from the vegetation line. In several places it is pushed down almost to the beach by steep rocky topography.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1). There are three sections of road (for a total of ~400') that will require full bench construction with end-hauling of excess excavation (BMP. 14.7 E5). These section are listed below with corresponding letter point on the road description photo. Rock excavation will require blasting through these sections, and will be performed using controlled blasting techniques (SA SPS 203.10) under the same wet weather restrictions as rock quarry development (BMP 14.7 E10). The sections listed below are the main areas requiring blasting on this road, but there may be other incidental blasting required for ditchlines, etc. Due to the high visibility of this road from the point it enters the old clearcut all the way to the sortyard, and the close proximity of steep slopes above the road, controlled blasting techniques will be required for the entire length of the road from the beginning of the clearcut to the sortyard.

F) Two short sections in the leave strip; 'P' 445 and east for ~100 ft. and 'P' 465 and east for ~100 ft.

G) Above the beach just east of the leave strip; 'P' 520 and east for ~200 ft.

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1). The entire road has been identified as a visual or recreation concern. The entire length of the road should be delineated as "sensitive" on the offering area map (see B6.311).

FUTURE NEEDS: Will be continuously used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6456.

A) Sta. 4+46. Class III. 6' wide by 1' deep. West bank 15' high, east bank 5'. Gradient 6% above the crossing, steep fish barrier below. Estimate 48-60" CMP.

B) Sta. 16+22, Wannigan Creek. Class III. 10' wide by 2' deep. Boulder, cobble, gravel substrate. Gradient 10-15%. Zig-zag channel, will need to take out meander to install pipe. Estimate 60-72" CMP.

D) First stream in clearcut. Class III. High gradient. Estimate 36-48" CMP.

E) Sta. 51+70. Class III. High gradient. Estimate 36-48" CMP.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 417

ROAD NUMBER: 6457 (Conclusion Overlook Road)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 2.4 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Log truck CRITICAL VEHICLE: Log truck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to access timber stands in the Fault Creek drainage, staying to the north of the deeply incised channel section.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1). There is one section of road ~400 ft. in length that will require full bench construction with end-hauling of excess excavation (BMP. 14.7 E5). This section is listed below with corresponding letter point on the road description photo. Rock excavation that requires blasting through this section will be performed using controlled blasting techniques (SA SPS 203.10) under the same wet weather restrictions as rock quarry development (BMP 14.7 E10).

A) 'P' 900 and east for ~400 feet (at the north end of unit 416-1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS: Will be intermittently used for timber sale and general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6457.

B) 'P' 4620. Class II. 11' wide by 1.5' deep, low devil's club banks. Cobble, gravel substrate. Gradient 2%. Estimate 103" by 71" CMPA partially buried for fish passage.

C) 'P' 5010. Class II. This is the same creek that is crossed at 'B', with some additional flow as it is also the lake outlet at this point. Trying to avoid crossing this creek twice pushes the road into the lake. An old beaver dam has just washed out ~60' above this crossing site. 15' wide by 1.5' deep, low grassy banks. Substrate cobbles, gravel. Gradient 1%. Estimate 103" by 71" CMPA partially buried for fish passage.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 419

ROAD NUMBER: 6463 (North Eagle)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 2.6 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Logtruck CRITICAL VEHICLE: Logtruck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to use the mid-slope bench as much as possible.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 El).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 El). The area from the junction to the point where the road leaves unit 419-27 has been identified as a visual or recreation concern. This segment of road should be delineated as "sensitive" on the offering area map (see B6.311).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 418

ROAD NUMBER: 6480 (Salt Lagoon)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 1.4 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Log truck CRITICAL VEHICLE: Log truck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Road is expected to naturally grow closed due to alder encroachment. When this occurs the maintenance level will be reduced to Level 1.

ROAD LOCATION: The main location objective is to reach landing sites on the ridgetop. The two main control points are V-notch crossings: one near the beginning ~400' upstream from Bataan Creek (pt. A), the other at the west end of Unit 418-6 (pt. B). Road remains 300' away from an ~1/3 acre pond on the ridgetop muskeg.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1). No areas of potentially unstable soils are crossed along this road location (BMP 14.2 E3).

ROCK PITS: It is anticipated that embankment for the first part of this road will come from a quarry developed during construction of Rd. 6402 at 'P' 4600, ~1/4 mile north of the 6480 junction. No segment of this road has been identified as a visual or recreation concern.

FUTURE NEEDS: Will be intermittently used for timber sale and general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at one crossing along this segment (pt. A), due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry in Bataan Creek, ~400 downstream (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6480.

A) 'P' 715. Class III, Pink salmon timing window applies. Instream construction activities to be conducted between June 1 and August 15. V-notch, 25' bank on the west side, 13' on east side. Substrate of angular gravel. Gradient is 9% up, 16% down. Will require ~20' of fill. Site is near the watershed divide, so not much flow is expected, but due to height of fill a 60" CMP is estimated to reduce the chance of plugging the culvert.

B) 'P' 3520. Class III. Fault derived V-notch on the ridgetop. Will require ~20' fill, estimate 36" CMP.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 417

ROAD NUMBER: 6483 (Failure Creek)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.8 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Log truck CRITICAL VEHICLE: Log truck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to reach the ridge/plateau system above Failure Creek.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1). There are two sections of road (for a total of ~400 ft.) that will require full bench construction with end-haul of excess excavation (BMP 14.7 E5). These are listed below with corresponding letter points on the road description photo. Rock excavation that requires blasting through these sections will be performed using controlled blasting techniques (SA SPS 203.10) under the same wet weather restrictions as rock quarry development (BMP 14.7 E10).

A) 'P' 1405 and east for ~200 ft.

B) 'P' 3600 and east for ~200 ft.

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement of soil (BMP 14.18 E1).

The area from Pt. A to ~500 ft. past Pt. B has been identified as a visual or recreation concern segment. This segment should be delineated as "sensitive" on the offering area map (see B6.311).

FUTURE NEEDS: Will be intermittently used for timber sale and general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 417

ROAD NUMBER: 6484 (High Bench)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.9 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Log truck CRITICAL VEHICLE: Log truck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Road is expected to naturally grow closed due to alder encroachment. When this occurs the maintenance level will be reduced to Level 1.

ROAD LOCATION: The main location objective is to reach the high bench running through Unit 417-1.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1). No areas of potentially unstable soils are crossed along this road (BMP 14.2 E3).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement of soil (BMP 14.18 E1).

The last 0.6 miles of this road as it runs along the high bench has been identified as a visual concern area. This segment should be delineated as "sensitive" on the offering area map (see B6.311).

FUTURE NEEDS: Will be intermittently used for timber sale and general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 417

ROAD NUMBER: 6485 (Rojo Creek)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.4 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Log truck CRITICAL VEHICLE: Log truck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Road will not be blocked at the junction, but the crossing structures at Rojo Creek and a V-notch tributary will be removed after completion of timber harvest. The road is expected to naturally grow closed due to alder encroachment. When this occurs the maintenance level will be reduced to Level 1.

ROAD LOCATION: The main location objectives and constraints are to cross Rojo Creek and tributaries at feasible crossing sites with the minimum of impact to the creeks after the structures are removed; to avoid the pond area to the west; and to reach landing locations on the knob at the south end of Unit 417-2.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement of soil (BMP 14.18 E1).

The length of road from the V-notch tributary of Rojo Creek (Pt. B) through the north lobe of Unit 417-2 (~1000 ft.) has been identified as a visual/recreation concern area. This segment should be delineated as "sensitive" on the offering area map (see B6.311). A good potential quarry site exists right at the junction with Rd. 6493. It is faced inland and would not be seen from saltwater.

FUTURE NEEDS: Will be intermittently used for general forest administration. Rd. 6485 has been specified to the unit boundary because of the Rojo Creek crossings. It will not be needed for future timber harvest access. The crossings will be designed to ensure the minimum amount of permanent impacts to the sites. Fills will be kept as small as possible and the structures will be removed after timber harvest is completed.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6485.

A) Rojo Creek. 'P' 1800. Class I. Currently only resident fish species present, but there is potential for a fish ladder project so is designated as Class I. Stream width 20 ft. Gradient 2%. Substrate gravel, cobbles. Estimate 60 ft. removable bridge.

B) Class II. V-notch tributary of Rojo Creek. Estimate 60 ft. removable bridge.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuui Longterm MGT AREA: S09 VCU: 417

ROAD NUMBER: 6488 (North Lakes Road)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 0.9 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Log truck CRITICAL VEHICLE: Log truck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to follow a series of scrub/muskeg benches. This road is centrally located for accessing several timber stands with short temporary roads.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1).

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: None.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 416

ROAD NUMBER: 6490 (Mountain Goad Road - FSL Experiment Access)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 1.9 mi. TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Log truck CRITICAL VEHICLE: Log truck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration. This road will access the FSL's partial cut experiment area.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to reach the ridgetop for uphill yarding. At the junction with Rd. 46901 the road bends back to the east to avoid steep sideslopes past the end of Rd. 46901. To do this required locating up a faultline notch. A very minor drainage will be affected for approximately 600 ft. as the design objective will be to minimize cut on the rock wall of the notch by filling with the toe of the fill-slope catching at the drainage. At the top of this notch the road runs through muskeg and swings back to the west to access the timbered slope.

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1). At 'P' 5605 (point 'B' on the road description photo) location up the faultline notch begins. From here for ~600' east all overburden and excess excavation will be end-hauled to avoid placement into the drainage ditch (BMP 14.10 E6). There is one section of road ~450 in length that will require full bench construction with end-hauling of excess excavation (BMP 14.7 E5). This section is listed below with corresponding letter point on the road description photo. Rock excavation that requires blasting through this section will be performed using controlled blasting techniques (SA SPS 203.10) under the same wet weather restrictions as rock quarry development (BMP 14.7 E10).

C) 'P' 9410 and northwest for ~450.

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement (BMP 14.18 E1). The area from the junction to the north boundary of unit 416-8 has been identified as a visual or recreation concern. This segment should be delineated as "sensitive" on the offering area map (see B6.311).

FUTURE NEEDS: Will be intermittently used for general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: None.

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6490.

A) 'P' 2000. Class III. 12' wide by 1.5' deep. 20' banks. Gradient 8-10%.
Estimate 48-60" CMP.

ROAD DESCRIPTION

PROJECT NAME: North & East Kuiu Longterm MGT AREA: S09 VCU: 417-18,405.1

ROAD NUMBER: 6493 (North No Name)

FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent

LENGTH: 10.1 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph

DESIGN VEHICLE: Log truck CRITICAL VEHICLE: Log truck

MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 2 HIGHWAY SAFETY ACT: No

INTENDED PURPOSE: To provide access for timber management activities and Forest Service administration.

TRAFFIC MANAGEMENT STRATEGY: Keep open for administrative use.

ROAD LOCATION: The main location objective is to hit the key passes that allow this road to run inland roughly parallel with the north shore of No Name Bay. These include passes between Units 417-7 and 417-5, at the east end of Unit 417-4, along the west boundary of Unit 417-24, and east of Unit 417-23 (see alternative maps). Another major control point is the crossing of the west fork of Failure Creek. Above the proposed crossing, the canyon becomes very deeply incised; below, the channel begins to braid and lose containment (BMP 14.2 E4,E5).

EROSION CONTROL: All areas of organic or mineral soil exposed during construction shall be grass seeded and fertilized (BMP 14.8 E1). There are six sections of road (for a total of ~2800 ft.) that will require full bench construction with end-hauling of excess excavation (BMP 14.7 E5). These are listed below with corresponding letter points on the road description photo. Rock excavation that requires blasting through these sections will be performed using controlled blasting techniques (SA SPS 203.10) under the same wet weather restrictions as rock quarry development (BMP 14.7 E10).

- C) 'P' 29800 and east for ~500 feet. Between Units 417-7 and 417-5.
- H) 'P' 20800 and west for ~300 feet, cross a small channel as slopes moderate, then full bench for another ~200 feet past the spur junction. East end of Unit 417-4.
- M) 'P' 17300 and east for ~700 feet. East end of Unit 417-24.
- Q) 'P' 13300 and east for ~500 feet. Just east of Unit 417-23.
- S) 'P' unreadable. ~200 feet, east end of Unit 418-15.
- X) 'P' unreadable. ~400 feet, just south of Unit 418-13.

ROCK PITS: During periods of high rainfall (as defined in current regional specifications) blasting will be suspended at quarries near potentially unstable sites where ground vibration may induce mass movement of soil (BMP 14.18 E1).

Numerous opportunities exist for quarry development in stable locations not visible from any sensitive travel corridor (saltwater, kayak portages, etc.). The area from Pt. Q east for ~1500' has been identified as a visual or recreation concern. This segment should be delineated as "sensitive" on the offering area map (see B6.311).

FUTURE NEEDS: Will be intermittently used for timber sale and general forest administration.

OTHER CONSIDERATIONS:

TIMING RESTRICTIONS: Construction timing restrictions are specified for in-stream activity at 5 crossings along this segment, due to the chance that sedimentation from construction may be harmful to salmon eggs and incubating fry (BMP 14.6 E4).

STREAM CROSSINGS: See road description photo for corresponding points on Rd. 6493.

A) 'P' 37215. Class I, spawning habitat (Pink timing window). Channel width 3', wetted width 3'. Bottom small gravel, although somewhat compacted and mixed with fines, stable. Banks stable. Low velocity and gradient. Rearing habitat good upstream. Dolly Varden and/or cutthroat observed. Adult salmon bones on bank. Fish passage required. Estimate 24' slab bridge to protect spawning habitat.

B) 'P' 32420. Class II. Full bank width 20'. Bedrock and cobble substrate. Banks 15' high on the south side, 5' on the north. 4% stream gradient. Crossing is located ~200' above a 40' barrier falls and just above a 5' chute of convoluted bedrock. No fish passage required. Estimate 72" CMP.

D) 'P' 27200. Class II (Coho timing window). Full bank width 6'. Banks 1.5' high and stable. Substrate of loose, clean gravel and small cobbles. Gradient is 3-4% at crossing. Several resident cutthroat trout seen with good habitat upstream. Estimate 72" x 55" baffled CMPA partially buried for fish passage.

E) West Fk. Failure Creek. 'P' 25200. Class I, spawning and rearing habitat (Coho timing window). Channel 40' wide, with 50' of floodplain on the west side. Devil's Club and skunk cabbage on floodplain. Steep 25' bank on the west side. Stream gradient 3%. Substrate of cobbles, large gravel. Estimate 50' bridge. Through cut on west side ~10' to reduce fill on floodplain and match elevation of eastern approach. Install 36" culvert in fill on floodplain and riprap base of fill to handle periodic inundation.

F) East Fk. Failure Creek. 'P' 23225. Class II (Coho timing window). 19' top of bank to top of bank. Banks 3' high. Gravel, cobble, boulder substrate. 26' max. width floodplain. Devil's club present. Stream gradient 7% up, 4% down. Very difficult fish passage with a pipe arch installation. Use bridge to provide fish passage to the ~1/2 mile of resident habitat above the crossing site. Estimate 30' bridge.

G) East 417-4. 'P' 21610? Class III. Gravel, cobble, boulder substrate. 6' wide by 2' deep. Waterfalls just above site. Gradient is 14% down, 20% up. Estimate 60-72" CMP. May encounter bedrock during placement. Riprap outlet blanket needed.

I) 'P' 20300? Class II pond inlet. Low gradient, beaver activity. Estimate 66"x51" CMPA.

J) 'P' 19300? Class II Intermittent (drywash) on alluvial plain. Flashy, 7-8' wide, no real stream banks. Estimate 87"x63" pipe to prevent bedload restriction. Bury to save pipe bottom. Riprap inlet away from stream to provide some definition to stream banks at inlet.

K) 'P' 19020. Class II. Crossing arm of beaver pond. 50-60' of ponded water, looks like ~3' deep of mud over gravel. Estimate 66"x 51" CMPA. Another route was flagged up and around the pond arm, crossing where the small stream enters the arm, through a wet, low-lying area, and crossing the 19300 drywash closer to where it leaves the contained canyon. After on-site IDT review of the two options, it was decided that the original location with it's better alignment and shorter distance would impact the lake less than going up and around the arm.

L) 'P' 19000. Class II, pond outlet. 8" Dolly Varden observed. Silty sand and gravel substrate. Beaver complex above site. Good straight stretch at site, slow flow. 14' wide by 1-3' deep. Restrict channel as little as possible, fish passage

easily provided. Use large pipe also due to beaver activity. Estimate 103" by 71" CMPA. Riprap outlet.

M) 'P' 17300. Class III. Steep V-notch, difficult crossing. Substrate boulder and cobbles. 6' wide by 2-3' deep. Stream gradient ~30%. Estimate 142"x83" CMPA. Will take alot of fill and a long pipe, may need a retaining wall to reduce fill. 18% adverse climb out of the site for ~300', then 12-15% for ~200'. A less preferable option is a 60-70' bridge ~100 upstream, although this would provide better road grade. The major problem at the upstream site is the approach on the east side. Have to cut into slope for entry and exit, and need retaining wall to contain fill.

N) 'P' 15720. Class II. Beaver pond crossing, displacement pipe. 5-15' wide by 6-18" deep. Install pipe ~30' downstream of survey line in area of flat stream grade to avoid elevation drop. This will allow easy fish passage.

O) 'P' 15400. Class II. Sand, gravel, cobble substrate. Broad floodplain. 2-3' banks with lots of overflow channels through them. 18' wide edge of water to edge of water. Gradient is 2%. Bury large CMPA to not restrict channel, and provide fish passage. Need riprap at outlet and directional log downstream. Put 36" pipes in overflow channels. This is a flashy creek with beaver ponds just below. No better crossing site available. Estimate 142"x83" CMPA.

P) 'P' 14100. Class II. West end of pond section. Scrubby area, sand and gravel substrate. Stream gradient is 15%. A 6" Dolly Varden was found at the crossing, but at most there is another 30' of habitat above the site. Estimate 24-36" CMP with riprap outlet, no fish passage will be provided due to lack of habitat above crossing, and stream gradient. A "Fish Passage Evaluation Form" (Aquatic Habitat Management Handbook, 64.13c) was filled out for this site. A 72" open-bottomed arch culvert for fish passage was compared with a 36" CMP for drainage. Extra construction cost was \$4,800 versus a present value of benefits of fish passage of \$5.

R) New location, south side of Unit 418-15. Class III. Small V-notch requires ~10' of fill. Estimate 48" CMP.

T) 'P' 2800. Class II, beaver pond crossing, displacement pipe. Three Class II tributaries just upstream. Upstream habitat is good. Substrate sand and gravel. Gradient is 1-2 percent.

U) 'P' 325. Class I, spawning habitat (Coho timing window). Good bridge site. Gravel, cobble, boulder substrate. Bedrock exposed in 3' high banks. Highwater ~4'. Ice scars ~3-4' high. Wetted width is 16'. Fast moving stream. Estimate 40' bridge.

V) 'P' 23300. Class II. Small beaver pond. Easy fish passage with displacement pipe. Estimate 36" CMP.

W) 'P' 22905. Class II likely, although no fish observed. Small muskeg drainage, gradient 12%. 2' vertical fall at crossing, existing natural juvenile resident barrier. Channel ends in muskeg ~300' upstream. Estimate 24-36" CMP. No fish passage will be provided due to stream gradient and lack of upstream habitat. A "Fish Passage Evaluation Form" was filled out for this site (Aquatic Habitat Management Handbook, 64.13c). A 72" open-bottomed arch pipe for fish passage was compared with a 36" culvert for drainage. The extra construction cost was \$4,800 versus the present value benefits of fish passage of \$80.

From 'P' 22905 the road switches back and heads up the ridge south of Salt Lagoon. Any further crossings do not involve fish habitat and are of such size that flows will be handled with 18"-36" CMP's.







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